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ORIGINAL ARTICLES.

COMPLETE MEDIAN CERVICAL FISTULA, THYROGLOSSUS DUCT PERVIOUS FROM FORAMEN CÆCUM OF THE TONGUE TO ONE INCH BELOW HYOID BONE; BRANCHIOGENETIC AND POST-RECTAL CYSTS. *

BY H. TUHOLSKE, M. D., St. Louis.

From a number of rather rarer cases recently under my observation, I have selected three, the pathological character of which becomes intelligible only in the light of facts revealed by the study of the earliest embryonic condition of the fœtus. I may be pardoned, therefore, if, for the elucidation of the subject I touch upon some of the elementary facts so entirely familiar to every member of the society.

In the developing embryo we come across a number of passages, ducts and canals, many of which normally disappear before birth. For my purpose, I desire to mention, of these obsolete passages, the branchial clefts, the thyreo-glossus duct, and the post-anal gut, as bearing on the three cases of branchio-genetic cyst, of median cervical fistula and of post-rectal cyst. Toward the end of the first month of fœtal life, we see under the frontal process, open in front and bounded on the side by four plates, the pharyngeal cavity. The upper pair of plates constitute the first branchial arch. The next three pairs of plates make up the 2nd, 3rd, and 4th branchial arches, which decrease in size from above downwards, so that their median interspaces in front are narrow above and wider lower down. Between each pair of branchial arches on each side remains a transverse groove, pocket or cleft, the branchial clefts which are obliterated during early fœtal life, with the exception of the first one, from which the external auditory canal, the cavity of the tympanum and the eustachian tube are developed. The three posterior clefts usually become obliterated. A failure in this direction results in the formation of lateral congenital cervical fistulæ. Such fistulæ may be complete with an opening externally and in the pharynx, or incomplete external ones opening in the anterior lateral triangle of the neck near the anterior border of the sterno-cleido-mastoid muscle close behind the lower jaw, opposite the hyo-thyroid space or near the sterno-clavicular articulation: or they may

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be incomplete internal fistulæ opening in the pharynx. Both the external and internal openings may become obliterated, leaving an open intermediate canal. External and internal incomplete fistulæ may later in life become complete. Modern research seems to fix the 2nd. visceral cleft as the usual source of the fistulæ. The fistulous tracts have a connective tissue basis, arranged concentrically around the tract and are lined with epithelium. An examination of the epithelium differentiates between the external and internal fistula. The external fistula is lined with squamous, the internal, with cylindrical epithelium; a complete fistula has generally cylindrical at the internal and squamous epithelium at the external opening. It has been known since the writings of Roser that certain cysts of the neck originate in the incomplete closure of branchial clefts and he

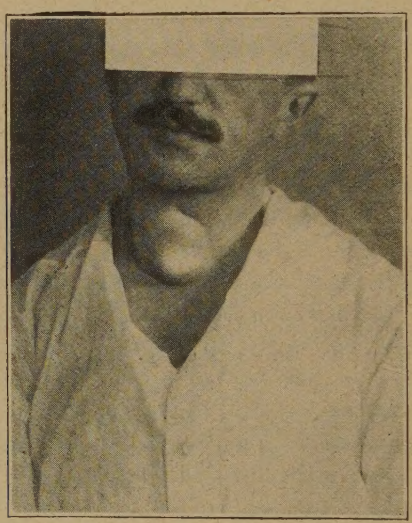


FIG. 1.—Branchiogenetic Cyst.

described the branchial cyst, in which the internal and external openings were closed, the intermediate portion becoming cystic and the cystic fistula in which one end remains open. Branchial cysts develop or become apparent at or about puberty or even the 3rd. and 4th. decade of life, but are congenital, because they develop upon a matrix of congenital origin. The cyst contents are of epithelial origin and we may speak of mucous, serous and atheromatous cysts. Dermoid cysts contain the characteristic secretions of the skin and its appendages; the branchial contain the products of the epithelial cells, because their walls do not contain any hair follicles, sebaceous or sweat glands, as the branchial clefts close before these appendages are formed. Branchio-genetic cysts form but a very small proportion of the tumors broadly designated as cystic tumors

of the neck, and while it is necessary to make a differential diagnosis between them and aneurisms, hæmato-cysts, lymphangioma, cystic goitre and lymph-angiectetic cysts; it is the latter only that will present a real difficulty. In the latter the finding of endothelium instead of epithelium will decide.

Case.—Patient, age 38, merchant, of small stature, slight build, not robust but otherwise healthy, presented a prominent and large swelling on the right side of the neck, occupying completely the right anterior triangle, extending from the lower jaw to beyond the sterno-clavicular articulation and from the sterno-cleido-mastoid to near the median line of the neck. The swelling was tensely elastic, fluctuating, slightly movable laterally; communicated carotid pulsation marked. Skin movable over

FIG. 2.—Complete Thyroglossal Fistula.

tumor, normal except at lowest point where it was red and tender on pressure. Swelling had first been observed fifteen years previously opposite the thyroid cartilage, had been growing more rapidly of late, and becoming tense and then painful; patient observed that pressure would give relief; he applied it frequently and finally noticed that on firm pressure fluid would get into the mouth and he thought the fluid was pus. Examination revealed a small opening at the lowest point of the palato-pharyngeal arch through which on pressure, a pus-like fluid exuded. The accompanying photograph will fairly show the size and position of the tumor. Diagnosis,—branchio-genetic cyst or, more correctly, cystic fistula. For the relief of the condition several methods had to be considered; puncture and emptying of the sac, followed by iodin or carbolic

acid injections, incision and drainage and extirpation. Decided on extirpation. Incision over middle of tumor from opposite the hyoid bone to the sterno-clavicular articulation, exposure of lower part of cyst, puncture, escape of over a pint of thin, yellowish, fatty fluid. Enucleation succeeded well to opposite thyro-hyoid membrane; then on slightest pull upon the cyst, stoppage of respiration, this occurred again and again: posterior connection of cyst firm with large blood-vessels; amputation of cyst at upper limit of enucleation, gauze drain introduced into cyst up to pharynx, closure of external wound up to drain. During the first days there drained away a thin reddish, watery fluid, gradually decreasing; at

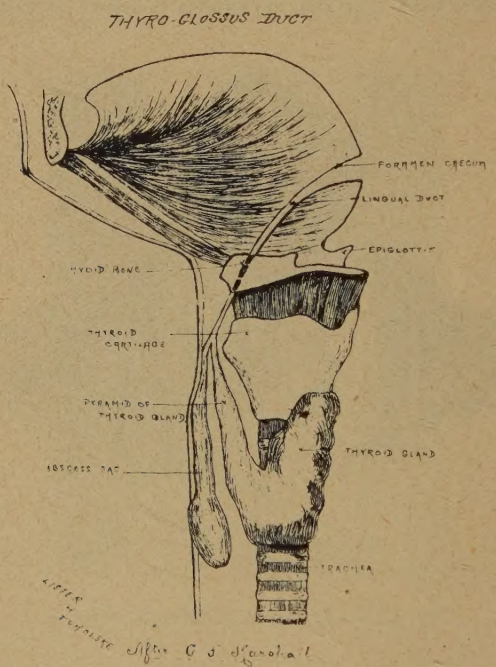


FIG. 3.

the end of the week sack had become very narrow and much shorter, drain was then removed, union was complete in another week. Patient's condition at present seems perfect, no swelling demonstrable, firm, persistent pressure brings no fluid into the mouth, gentle manipulation fails to discover the presence of fluid, opening in the pharynx closed. Prognosis as to permanent cure must remain doubtful, some small epithelial-covered patch may have escaped in spite of all care; hence there remains the possibility of a recurrence. In remembering the antomy of the branchial fistula the operative difficulties will be apparent; the canal runs over the internal carotid, between the external and internal carotid arteries, the

internal jugular vein often displaced to the median line and the glosso-pharyngeal and hypoglossal nerves before pharyngeal opening is reached. Examination of contents by my pathologist, Dr. Newman: Fluid,—thin, turbid, mucoid, yellowish material with abundant cholesterine granules and under the microscope polymorph, leucocytes, a few lymphocytes, granular debris and fattily degenerated epithelial cells. Section of cyst wall showed distinct connective tissue basement membrane on which were two and three rows of cuboidal epithelial cells, the layer lining cyst cavity columnar and ciliated; cyst surrounded by loose connective and fatty tissue. The microscopic finding of ciliated epithelium shows the origin of the cyst to have been of the pharyngeal end of the visceral cleft. Fluid sterile, no culture growing on any of the usual media.

Median cervical fistula.—For the explanation of the occurrence of a complete median cervical fistula the thought that failure of the union in front of the branchial arches or closure of the sinus cervicalis may be the cause, cannot be satisfying, for at most from such failure, only a shallow external fistula could result. For between the oral cavity and the external body surface rises the meso-branchial layer, a strong plate or wall out of which the epiglottis and root of the tongue develop. The careful anatomical studies on the cadaver and on the living, by Marshall, the clear presentation of the subject by Bland-Sutton and the work of His in 1891, seem to prove beyond a doubt that median cervical fistulæ owe their origin to the persistence in one or more places or along the whole length, of the thyreo-glossus duct. In early fœtal life there is an epithelial connection between the cavity of the mouth and the isthmus of the thyroid gland. His maintains that the isthmus of the gland develops separately from its two lobes. The isthmus is derived from a median tubular outgrowth from the ventral epithelial wall of the pharynx; this tube growing downwards bifurcates, forms the isthmus and fuses with the lateral lobes. Originally the duct extends as far forwards as the hinder portion of the tongue, but with the growth of the body of the hyoid, it is divided into an upper lingual and lower thyroid duct. The upper open end persists and is known as the foramen cœcum of the tongue; as a rule the remainder becomes obliterated. Kœnig claims that a thyro-glossal fistula open from the foramen cœcum to the external end below the hyoid bone, has not been described. Median cervical fistulæ are never seen at birth; they are always preceded by a swelling below the hyoid bone, either breaking, or opened by the surgeon. I have a case proving the occurrence of a complete median cervical fistula. Mr. J. B., a wool merchant of the city, aged 28, noticed a swelling in the center of the neck below the hyoid bone. The swelling became tender and painful, and a physician opened it; there escaped a quantity of muco-purulent material and there remained a discharging fistula. Patient presented himself to me for treatment. A fine probe introduced passed vertically upwards under the skin to the hyoid

bone and then deviating, a short distance back of it. I disinfected the little tract, cauterized again and again, but got no result. I finally concluded to dissect it out and did so. Still no healing and a persistent mucoid discharge. Some weeks after the operation, injecting under rather strong pressure, some peroxide of hydrogen, patient exclaimed that he felt the medicine in the mouth and on examination I found the peroxide coming out of the foramen cœcum of the tongue. I frequently repeated the injection and conclusively proved that there existed a complete central cervical fistula or pervious thyro-glossal duct. The patient not being greatly troubled with it, refused to undergo the suggested operation. The patient still has the fistula or at least he had the last time I saw him three months ago, previous to a trip abroad.

The third of the obsolete fœtal ducts is the post-anal gut. I shall now literally quote from Mr. Bland-Sutton.

"In the early embryo the central canal of the spinal cord and the alimentary canal are continuous around the caudal extremity of the notocord. This passage, which brings the developing cord and gut into such intimate union, is known as the neurenteric canal. When the proctodæum invaginates to form part of the cloacal chamber it meets the gut at a point some distance anterior to the spot where the neurenteric canal opens into it, hence there is for a time a segment of intestine extending behind the anus and termed in consequence the post-anal gut. Afterwards the post-anal section of the embryonic intestine disappears, leaving merely a trace of its existence in the small stricture at the tip of the coccyx, known as the coccygeal body. Post-rectal cysts owe their origin to this fœtal stricture. They are comparatively rare, they may grow to a large size and fill the hollow of the sacrum. Ord reported a case of post-rectal cyst in a man, the tumor weighing 28 pounds. My case in point was that of a woman, 30 years of age, of good physique, married. The tumor in question pushed the rectum forward and bulged into the vagina and in her last pregnancy interfered with the delivery of a living child. When first seen by me, it was rather larger than a cocoanut. The operation which I performed and all the interesting details have been reported by Dr. William Deutsch, instructor in surgery in medical department, Washington University, before the Medical Society of City Hospital Alumni. The published account of it is worth perusal. I will only add that the tumor was a cyst of post-anal gut origin, it had undergone malignant degeneration, as is so much the tendency in included or heterotopic epithelial remains.

In the presentation of this short paper I have freely used the following publications:

The International Surgery.
Senn on Tumors.
v. Bergmann's System of Surgery.
McMurrich's Embryology.
Hertwig's Embryology.
Deval's Atlas on Embryology.
Bland-Sutton, "Tumors: Malignant and Benign."

THE QUOTIENT OF ENERGY AS A BASIS FOR INFANT FEEDING.

By John Zahorsky, M. D., St. Louis.

At the outset an apology must be made for attempting to offer a new method of infant feeding. The truth is that I do not offer such a new method, but merely call attention to a means of control which has a great value, and yet has not received the consideration which it merits.

That we need some method or rule by which the quantity of the solid food in the milk may be properly adjusted is very evident, when we consider that the prevailing rules for infant feeding, while taking account of the percentage constituents, do not, except in a very general way, control the quantity. Percentage feeding has become generally accepted as the most rational method, but in order to meet all the requirements, it is necessary to have a rule by which in any given case, the total quantity of solid food and its relation to the infantile organism may be determined. For example, let us assume that an infant fed on a milk mixture, which, on account of some peculiarity of digestion, differs very widely from the formulæ laid down by Rotch, Holt and others, how can the physician know whether the infant is getting enough food to satisfy the actual needs of life? Or, let us suppose, it must be fed on a mixed feeding, say, broth and cereals, with some milk—is there any way in which the physician may approximate the necessary amount?

True, in most healthy babies this total quantity may vary within wide limits, and it is the general custom to let the baby's appetite judge of the quantity necessary. Whenever the little one does not gain in weight, seems hungry, is constipated, these are indications that the food should be increased. But there are many infants for whom it is necessary to maintain the quantity at a minimum; others must not have the food increased above a certain limit without causing digestive disturbances.

For some time I have been using the quotient of energy (E. Q.) as a basis of infant feeding in certain difficult cases; moreover, have used it as a test, whenever the question of food quantity was under consideration, and the satisfaction derived gave rise to this article.

Several methods have been suggested for expressing the relationship of the infant to the food. One of these is the ratio between the infant's weight and the amount of milk taken in twenty-four hours, or, more exactly expressed, it was the relative amount of milk taken by each kilogram of weight. The name nutrition-quotient (Nahrquotient) has been given to the percentage relationship of the gain in weight and the total quantity of milk. These relationships are valuable only when the food is human milk. When artificial food is given some other formula must be devised.

A very happy suggestion, therefore, was made by Heubner (1900) when he proposed that the food constituents should be expressed in heat units, that is, calories. If the composition of the food is at least approximately known, the number of large calories in a given quantity may be easily calculated from the fact that 1 gram. each of proteids and sugar equals 4.1 calories and 1 gram. of fat yields 9.3 calories.

If the calories ingested in twenty-four hours are determined and the relationship to the weight of the infant is calculated, we get a number which may be utilized in making comparisons in the nutrition of the same or different infants. To this number Heubner has given the name energy-quotient. The energy-quotient is the number obtained by dividing the number of daily calories by the number of kilograms in the body-weight. It, therefore, expresses the number of calories given to each 1000 gram. of the infant's weight.

There has been much dispute as to the proper energy-quotient for the infant. In spite of all the objections brought against his figures, Heubner is probably correct in stating that the proper amount of calories for each kilo of a healthy infant is about 100 calories, many infants thrive on a much smaller quantity; often infants require more to satisfy their appetite; still 100 calories (E. Q.) may be safely regarded as a normal average.

In any method of feeding infants, it will be found expedient at times to calculate the calories in a day's feeding, and ascertain how much more or less than this standard is given. It should be remembered, however, that the energy-quotient gradually diminishes as time advances, so that the relative food value of the infant at one year is less than it was at one month.

There are several diseases in infancy, e. g., marasmus, for which it is necessary for a time to reduce the quantity of food to the lowest limit compatible with life. Again, in the feeding of certain difficult cases, while it is necessary to adjust the percentage of the food constituents it is also necessary to control the total quantity.

The conception implied by the term energy-quotient will have a decided value in that it will diminish the exclusive use of certain foods which are often believed to have a high nutritive value, e. g., albumin, water, broths, cereal decoctions, etc. On calculating the contained heat units in any of these foods, their poverty in calories is obvious.

It is generally conceded at present that marasmus (infantile atrophy) is best treated by giving the infant a minimum quantity of food. On account of the great tendency of acidosis present in these cases, the fat must be given in a low percentage, but nevertheless, the infant must receive sufficient heat units in the food to maintain life.

It has been determined that 70 calories is a minimum energy-quotient

for young infants. This is almost the least quantity that will insure a stationary weight. A few infants have been observed to gain on an alimentation represented by an energy-quotient of 55 calories. Hence, it is perfectly safe to reduce the food to 60 or 70 calories energy-quotient.

In order to apply the method in a particular case, weigh the infant. Determine then by the rules laid down by Rotch, Holt, etc., what percentage would most likely agree. Then calculate the total quantity for twenty-four hours on the basis of the energy-quotient. Let me give an example.

Case I. Infant L., female, aged five months, had been suffering from severe dyspeptic symptoms for three months, all kinds of food having been tried without success by the mother.

Examination revealed an infant in a state of severe atrophy, no diseased organ was discovered. Weight about 8 pounds (3,700 grams).

The infant was placed on a mixture made from whey, top milk (containing about 10 per cent. of fat) sugar, and a cereal decoction made from roasted flour.

The directions to the mother:

Roasted flour gruel	10 ounces.
Whey	11 ounces.
Top milk	3 ounces.
Sugar	5½ drams.

Give three ounces at a feeding, eight feedings in twenty-four hours.

This mixture had approximately the following composition:

Fat	1.25 per cent.
Proteids	.90 per cent.
Sugar	6. per cent.
Insoluble carbohydrates	1. per cent.

This, on calculation, contained in each ounce energy equivalent to 12 calories. Twenty-four ounces then would contain 288 calories, which, divided by the number of kilos in the weight of our little patient (3.7) gives an energy-quotient of 77 calories. Since 70 calories is considered a fair minimum, I could feel assured that my little patient received enough food. After a few days the infant commenced to gain in weight and the energy-quotient was gradually increased to 100 calories.

Physicians have too little appreciated the value of a minimum alimentation, although, we can scarcely agree with Keller, who makes this statement: "The physician who teaches mothers the advantages of a minimal feeding accomplishes more for the benefit of mankind than he who gives good milk for infant feeding." Still, there can be no doubt that in the treatment of various non-infective digestive disturbances the minimal feeding is the best therapeutic measure, and to feed by small quan-

tities successfully, a knowledge of the energy-quotient is indispensible. Many digestive disturbances are kept up indefinitely by giving too much food. Accurate percentage modification is really less important than adjustment of the total quantity of the solid constituents to be ingested.

I will briefly refer to two other instructive cases:

Case II. Female, age 7 months, has passed through a severe gastroenteritis during the summer. The physician in attendance placed the infant on a milk dilution made from "top milk," but the infant continued to have digestive disturbance. On calculation I ascertained that the food administered was represented by 140 calories (E. Q.) The following table gives weekly weight and the food ingested in calories approximately.

DATE	WEIGHT GRAMS	ENERGY QUOT.	WEEKLY GAIN
October 15	3820	145	
October 22	3820	140	00 gm.
October 29	4090	100	170 gm.
November 4	4204	105	114 gm.
November 11	4396	100	192 gm.
November 18	4459	110	63 gm.
November 25	4700	110	241 gm.

From this table it is obvious that the infant gained very little until the quantity of milk was reduced.

Case III. Infant, age 4 months, after passing through a number of digestive disturbances, weighing only 5 pounds, was found to be taking a milk dilution which contained heat units equivalent to an energy-quotient of 200 calories. No improvement was procured until the food was cut down so that it represented 100 calories (E. Q.).

These cases could be increased, but I refrain from giving long details. Let me urge, however, that the use of this standard necessitates a knowledge of the composition of the milk which is being used. Before the energy-quotient can be of any service, modern methods of percentage feeding must be mastered.

In gastroenteric infections it is good practice to limit the feeding for a short time to cereal decoctions or albumen water. But simple calculation will show that these mixtures, when no sugar is added, contain only 1 or 2 calories to the ounce, while human milk contains 21 calories to the ounce. In order to give a reasonable food value to rice-water or albumen water, sugar must be added so that the percentage of solids is about 7 per cent., when nearly 10 calories will be found in each ounce.

In the case of the premature infant, the use of the energy-quotient to control the amount of milk is by far the safest method of feeding. As I

have written at length on this subject elsewhere (St. Louis *Courier of Medicine,* March) it is unnecessary to dwell on the methods at this time.

There is, however, another condition when the energy-quotient will be found useful, and that is when an infant on an artificial food does not gain in weight and the question arises whether the infant is getting enough food. If, on calculation, it is found that the infant receives more than 100 calories to each kilo of body-weight, we must seek elsewhere than in the quantity of food as the cause of the loss in weight.

Not long ago this question was brought to me very forcibly in the case of a young infant, who could not digest any modification of cows' milk. It was finally put on an alimentation composed of whey, mutton broth, barley gruel, plasmon, and cod liver oil. The food was mixed as follows:

Whey	20 ounces.
Mutton broth, with barley flour	16 ounces.
Milk sugar	2 per cent.
Plasmon	3 drams.

Cod liver oil in 15-drop doses was given three times daily. But the baby did not gain in weight after persistent trial. It then occurred to me to test the total quantity by determining the energy-quotient. After an elaborate calculation, in which due allowance was made for the variation in the composition of the different ingredients of the food, it was found that the quotient of energy was below 80. The total quantity was increased, sugar and cod liver oil given in larger amounts, so that the food represented 110 calories E. Q. The infant commenced to gain rapidly.

Let me not be misunderstood. The weight of the infant is by no means such an infallible guide to feeding, so that a definite energy-quotient will serve for every infant. Some infants will gain rapidly on a relatively small quantity of food. Infants who are restless and very irritable need more, consequently some will require a food which is represented by more than 120 calories energy-quotient.

In conclusion, I wish to reiterate that the use of the energy-quotient as a guide in infant feeding does not replace the method of feeding by percentages, but it supplements it and makes it more perfect.

SUGGESTIONS FOR IMPROVING THE RESULTS OF SURGICAL TREATMENT IN CACINOMA RECTI.*

By Ernst Jonas, M. D., St. Louis.

The great hopes of the cure of cancer of the rectum by the x-ray, the Finsen light and serum treatment, have proven futile. It may be possible —perhaps not advisable—to cure a superficial carcinomatous ulcer of the skin by the x-ray, but I can safely say, that, until a universal remedy for cancer is found, all cases of cancer of the rectum will end fatally, unless removed completely by the knife. If then, this alone can cure the patient, it must be our aim to get the best possible results from the operative treatment.

Upon a thorough analysis of the present status of surgery of cancer of the rectum, it becomes evident that the desired results can be accomplished only under two conditions:

First, if a greater per cent. of the rectal cancer cases are operated on at an early stage of the disease.

Second, if the operative methods remove the entire cancerous growth, and, with it, the surrounding cancer-bearing tissue and the regional lymphatic glands.

How much may be accomplished toward bringing about the first condition may be realized, if we consider for a moment the improvement in the cure of cancer of the uterus, brought about by Winter's classical investigations and propaganda. At his instigation, medical societies called the attention of physicians and midwives to the fact, that the success of the surgical treatment of cancer of the uterus depended largely upon the early diagnosis and consequent radical surgical treatment. The characteristic symptoms of cancer of the uterus were clearly and precisely pointed out. The result of these efforts in the different parts of Germany was, that the patients presented themselves to the surgeon, or were presented by their physicians, at an earlier period of the disease (before the propaganda 33 per cent., afterward, 57 per cent., within three months after the appearance of the symptoms), and that therefore the per cent. of operable cases (out of 25,000 cases of cancer of the uterus annually) rapidly increased. May we not hope for similar methods to bring patients afflicted with cancer of the rectum to the surgeon at an earlier stage of the disease?

Hartwell says, in his paper on "Radical Treatment of Cancer of the Rectum," that, in cases reported, the average lapse of time from the appearance of symptoms which might have led to the diagnosis, until the diagnosis was actually made, was about nine months. According to Lockhart Mummery, most cases of carcinoma recti come under treatment

*Read before the St. Louis Surgical Club, March 4, 1906.

in an inoperable condition. The comprehensive statistics of Albinghaus prove that only 10 per cent. of rectal cancers are operated on radically. From this decidedly unfavorable report, it is evident that an increase in the per cent. of operable cases can be brought about, if the advantages of an early diagnosis are impressed upon the medical profession and the laity.

The reasons for this late discovery of the true condition of the patient are evident. There are some few cases of cancer of the rectum which begin so insidiously that the existence of the growth is not suspected until it has made irreparable progress. This is the case particularly, when the cancer is of the scirrhous type, found more frequently high up in the rectum. Tuttle says, clinically these tumors appear in the shape of a gradually contracting stricture of the organ. They cause no pain, very little discharge, and no hemorrhages. Gradually increasing and intractable constipation is a salient feature. Cachexia and sepsis are practically absent, and unless the tumor is transformed into some other type, the final end occurs through intestinal obstruction or rupture of the rectum above the growth. But fortunately, the large majority of rectal cancers presents a different history. These ordinary cases of cancer of the rectum do present early symptoms, but these symptoms frequently do not differ from those of many benign lesions of this organ. This very fact of similarity of symptoms should prove a blessing in disguise, if the patient can be taught that all the symptoms, which he has been in the habit of considering as the result of piles, fissures, fistula, etc., may be caused by rectal cancer—most likely in a stage of incipiency, and therefore, most likely operable, with a fair chance of perfect results. Having realized this much, the patient will naturally consult a physician on whom, then, rests the responsibility of making the diagnosis by a thorough local examination.

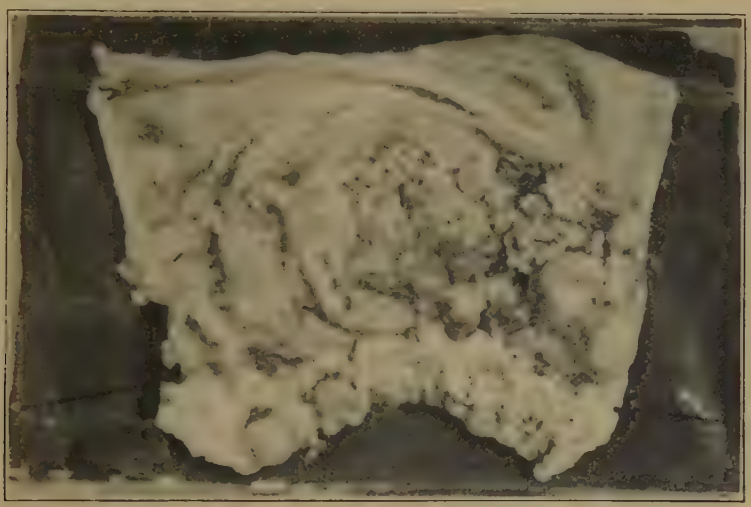
I need not mention, that it is very reprehensible for a physician to prescribe for rectal complaints without making a thorough local examination. Although well aware that the finger is the best instrument for the examination of the rectum, if the seat of the trouble is not located too far up, I know from experience, that, in some cases, it is not sufficient to introduce the finger three or four inches into the rectum, and—if no pathological condition is made out—to exclude the rectum as the seat of the trouble. A more careful examination with a pneumatic proctoscope is necessary. And if, by these means, the cause of the condition is not discovered, we must resort to examination in narcosis, or even to an exploratory laparotomy, which latter, in case of positive findings, would serve to determine the operative possibilities of the case, and which, if the operation is decided on, would be the beginning of the first step. Only after all these means of examination have been exhausted,

have we the right not to hold the rectum responsible for the intestinal disturbances.

I do not intend to enter upon a lengthy discussion of carcinoma of the rectum, but there are some points that should be considered, if we would lay stress upon symptoms and conditions which may lead to an early diagnosis of rectal cancer, and so spare us the dreadful remorse caused by neglect of examination. Just as the examination of a patient is not to be considered complete without an examination of the urine, so the rectal examination should be a routine examination, not to be omitted in a single case, in which the symptoms are not otherwise absolutely accounted for, and certainly never in any case with digestive disturbances. Frequently only in this way the true cause of vague, indefinite discomforts in the region of the sacrum or about the pelvis is found; only in this way, the true cause of many a case of chronic constipation, for which the patient has usually consulted many physicians, and has been blessed with all the drugs of the German or American Pharmacopœia. No lesser man than Osler advises his pupils to examine the rectum in every case, since the examination, frequently neglected by physicians, may give valuable information. I remember a case of rectal cancer, treated by a scientific physician, upon the diagnosis of which, all the blood examinations and stomach analyses could throw no light. The neglected rectal examination immediately established the cause of the trouble as an inoperable carcinoma recti. Experiences of this kind are sad indeed, and can be avoided only if—as I have said so often—the rectal examination is never omitted. To wait until the patient calls attention to marked rectal discomfort, usually means that the favorable time for radical operation has passed, or if resorted to, will bring no permanent result.

It is a great misfortune that the rectal carcinomata frequently give so little disturbance, and are, therefore, allowed to continue their growth. Pain is often entirely absent until the later stages, difficulty of stool, constipation varying with diarrhœa, often morning diarrhœa, are symptoms not considered sufficiently characteristic to reveal the serious condition of the patient. Muco-purulent or bloody stools are often considered as the result of dysentery, or of hemorrhoids, which latter, however, may be only an accompanying condition of rectal cancer. Or the above symptoms may, on the patient's say-so, have been accepted by the physician as caused by hemorrhoids, without further local examination. The patient again, may have only imagined the presence of hemorrhoids, since according to his notion, the above symptoms must result from hemorrhoids, with which so many of his friends, with like complaints, are afflicted. Loss of strength, emaciation, and cachexia are generally noticeable only in the late stages of rectal cancer. Only in the very latest stages, the characteristic odor is perceptible, the patient becomes septic, and abscesses attended by gangrene may form.

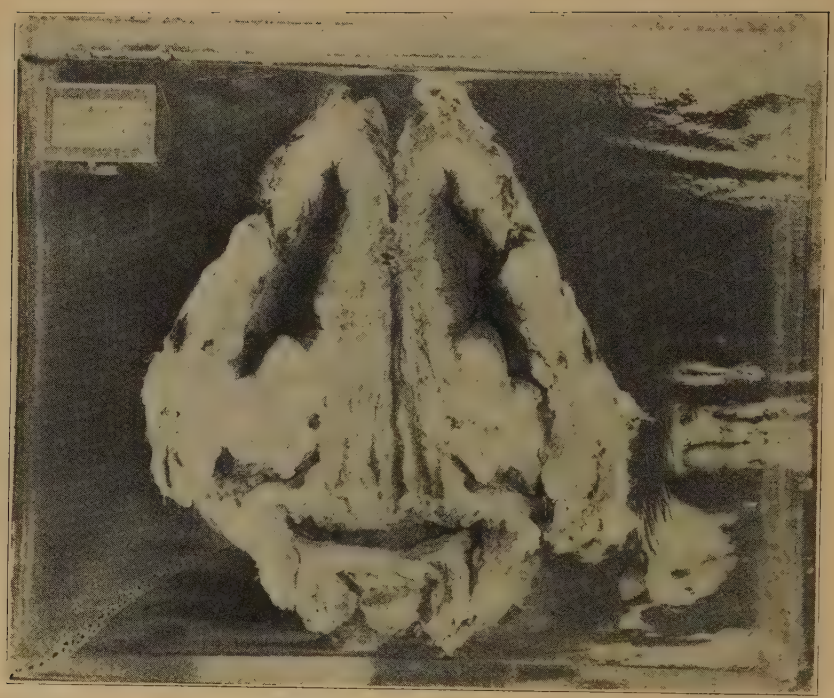
There is only a slightly greater frequency of rectal cancer in men than in women; there is no age limit. In literature, I find rectal cancers observed in children. One of the specimens is from a young man well on in the twenties.



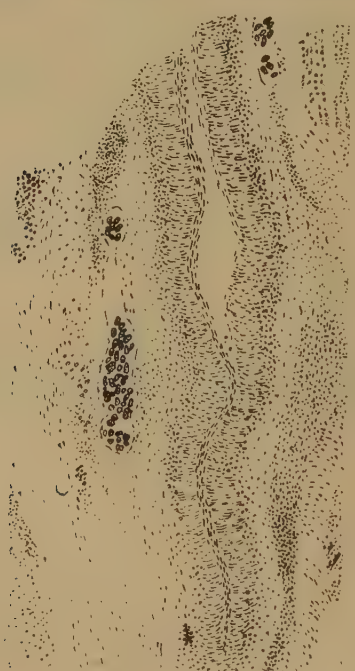
Specimen No. 1.

Specimen No. 2.

The history of the disease—not distinguishable—at least not in the early stages—from that of many benign rectal diseases, especially of ulceration or stricture of the benign variety, makes the diagnosis depend chiefly upon a physical examination, which in most cases of rectal cancer, will easily interpret the local findings.



Specimen No. 3.—Primary carcinoma of the prostate.



Microscopical drawing I.

I shall not go into the details of the pathological study of cancer of the rectum, but it may not be out of place to point out the most characteristic forms. Cancer of the rectum rarely starts at the anus. When such is the case, it originates in a fissure, fistula or irritated hemorrhoid. Cancer of the anus grows rapidly and soon infects the lymphatics, usually of the inguinal region.

In the earliest stage of the cancerous disease of the rectum, one feels a small, hard, flat induration in the mucous membrane, the surface of which is somewhat uneven. Soon an isolated ulcer will be felt, with a margin as hard as cartilage, made up of separate nodules of different size, the consistency of which is in sharp contrast to the soft surrounding mucous membrane. This infiltrated margin is one to two centimeters broad and can hardly be mistaken for the smooth, soft border of a simple granulating ulcer, due, for example, to syphilis or gonorrhœa. In the latter stage, the ulceration may extend around the whole circumference of the bowel, which will then feel like a stiff, narrow tube, with a hard, rough, irregular wall. (Specimen No. 1 reveals all the characteristics of this type. You can see not far from the anus a carcinomatous ulceration, enveloping the whole circumference of the anus. Microscopically such a tumor is an adeno-carcinoma). The gelatinoid cancers are much softer, but are also surrounded by an extensive infiltration in contradistinction to a simple ulcer. The third type, the fibroid cancer, is more difficult to diagnose. It is characterized by normal mucous membrane close up to the tumor. The uneven formation of the new growth is the only difference on palpation from the benign, contracted, smooth scar of the rectum. If such a carcinoma is situated high up in the rectum, it feels like the cervix uteri. (Specimen No. 2 is an example of this kind. The patient with this tumor, almost the size of an egg, had no pain, no hemorrhage, no discharge from the rectum. Stubborn constipation was his only complaint for several months, until complete obstruction of the bowels brought him into the hands of Dr. Johnson, who referred the case to Dr. Tuholske. Rectal examination revealed this tumor as the cause of the obstruction, making an artificial anus in the sigmoid flexure necessary, as a preliminary step to its removal.)

That benign tumors of the rectum, as papilloma, fibroma, lipoma, myoma, and mucous polyps, upon palpation and in the symptoms produced (especially if ulcerated on the surface), resemble the picture given above, is evident. The microscopical examination, alone, will then determine the diagnosis. Even the microscopical examination is no absolute proof; we might have a polypus with malignant degeneration at the base of its pedicle, the pieces removed for microscopical examination, coming from parts of the tumor, not showing malignant structure. Let me add here, that a carcinoma may develop just outside of the rectum,

from remains of embryonic structure, called post-anal gut. A tumor of this kind, starting behind the rectum, in the hollow of the sacrum, growing on to rectum and vagina, came under our observation a few years ago. The presence of the growth in the patient was discovered only, when at confinement the tumor interfered with the delivery of the child. The case and operation by Dr. Tuholske has been reported at length in the Washington University *Bulletin*.

Thus far we have considered how to make the diagnosis of cancer of the rectum at an early stage. We come now to the second condition necessary for the improvement of results by operative measures. This is, as stated before, to completely remove the cancer, including the surrounding dangerous zone, with its lymphvessels and glands.

This point brings up the question at once, how far may a cancer have progressed, to still be within the limits of a radical operation. Contra-indications for radical operations are the involvement of the bladder, the close connection of the tumor with the pelvis, and, of course, metastatic growths in other organs, most frequently in the liver. I know well that it is surgically possible to remove a large part of the bladder and implant the ureters higher up, but such extensive operations are, in my opinion, better left undone. Secondary involvement of the prostatic gland and of the seminal vessels does not absolutely contra-indicate a radical operation. They may be removed, in connection with the rectum. (A specimen of *primary* carcinoma of the prostate involving rectum and bladder, acquired at a post mortem, is comparatively rare, so I may be pardoned for presenting it—Specimen No. 3). The involvement of the lymphatics by the cancer is, however, by no means a contra-indication for radical operation. In fact, I believe, that the permanent result of operations for cancer of the rectum depends largely upon the appreciation of this point.

It may not be amiss to point out the arrangement of the ano-rectal lymphatic trunks. These vessels may be divided into three groups:

First, an inferior group, which comes from the skin of the margin of the anus and is a tributary of the superficial inguinal glands.

Second, a middle group, which comes from the region of the white line, and ends in the hypogastric glands (corresponding to the middle and inferior hemorrhoidal vessels).

Third, a superior group, which springs from the mucous membrane of the anus and rectum and terminates in the glands of the mesorectum, after traversing the pararectal glandular nodules (corresponding to the superior hemorrhoidal vessels).

These groups of lymphvessels and glands must be removed in the operation. This typical location, however, is not found in all cases. The lymphatics are sometimes found surrounding the large

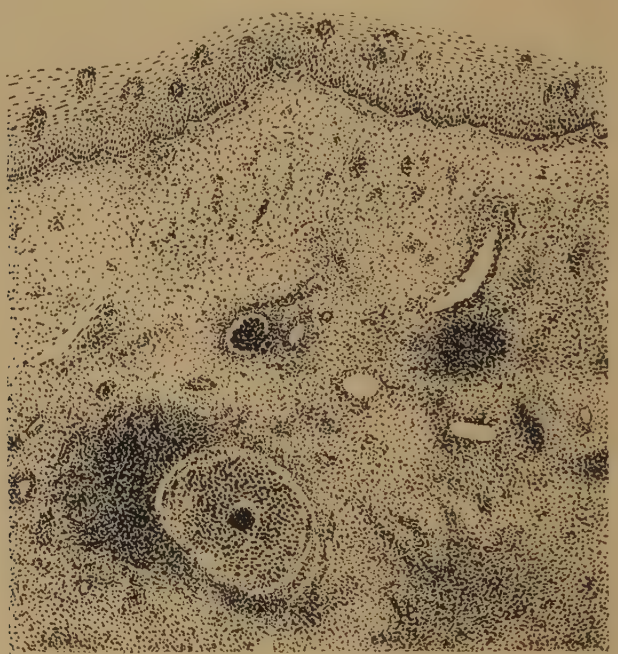
vessels of the pelvis. It is remarkable, how contradictory the reports of different authors are, regarding the time of the involvement of the lymphatics. Some of them state that the lymphatics are involved only at a late stage, others say that glandular involvement exists in nearly all cases, almost from the very start. From comparison with carcinoma in other parts of the body, we must believe in the early involvement of the glands. It is with cancer of the rectum just as with cancer of the uterus. At first, after vaginal removal of the uterus, there arose great enthusiasm, since there is but a very small mortality and a great number of apparent cures. But soon great disappointment followed because of the early recurrence of the disease. Therefore, at present, the striving for more radical operations, which aim at a complete removal of the cancer, including parametrium and all regionary lymphatic vessels and glands. The scientific investigations of Winter and many others regarding better permanent results from operations for carcinoma uteri have brought about this change. Winter differentiates four kinds of recurrences:—(1). The most frequent recurrence of the cancer is in loco, appearing a short time after the operation. With reasonable certainty we may believe that the recurrence comes from carcinomatous foci not removed at the operation. (2). The recurrence from diseased lymphvessels and lymph-glands. (3). Metastatic recurrences. (4). Recurrences from inoculation during the operation.

A like change must be brought about in the radical treatment of cancer of the rectum. Only then—even if the immediate mortality from the operation should be greater—may we hope to effect a greater number of permanent cures. We must remove not only the diseased part of the rectum, far beyond the apparently diseased portion, but also the surrounding connective tissue, with all the lymphatics draining this region. This necessitates operations which are more extensive than the ones usually performed at the present time. We have to choose between the likelihood of a permanent cure, by a radical operation, and a temporary result by a more conservative operation, followed by an early recurrence of the disease. Without any doubt, the most frequent of all recurrences of rectal cancer—just as in cancer of the uterus—is the local recurrence, and the reason for it is, that the operation has not gone beyond the diseased, into the healthy tissue. In other words, we have not removed enough. Why is this?

The limits of the average rectal cancer usually seem well marked to the eye and to the palpating finger. This, however, is very deceiving, the cancerous process frequently spreading sub-mucously in continuity with the main tumor for a great distance. Cancerous isles in the mucous membrane and in the sub-mucous tissue are also found without any

connection with the primary focus. To investigate this point, at the suggestion of Professor Waldeyer and Dr. Abel, six years ago, I examined all specimens of cancer of the uterus removed by Dr. Abel. I excised pieces of vagina, at least four cm. from the microscopical limit of the cancer of the uterus and found in almost one-third of all the cases cancerous infiltration either in small lymph channels (Microscopical drawing I), or as independent little carcinomatous nests (Microscopical drawings II and III).

The three drawings made at the time from microscopical views elucidate this fact.

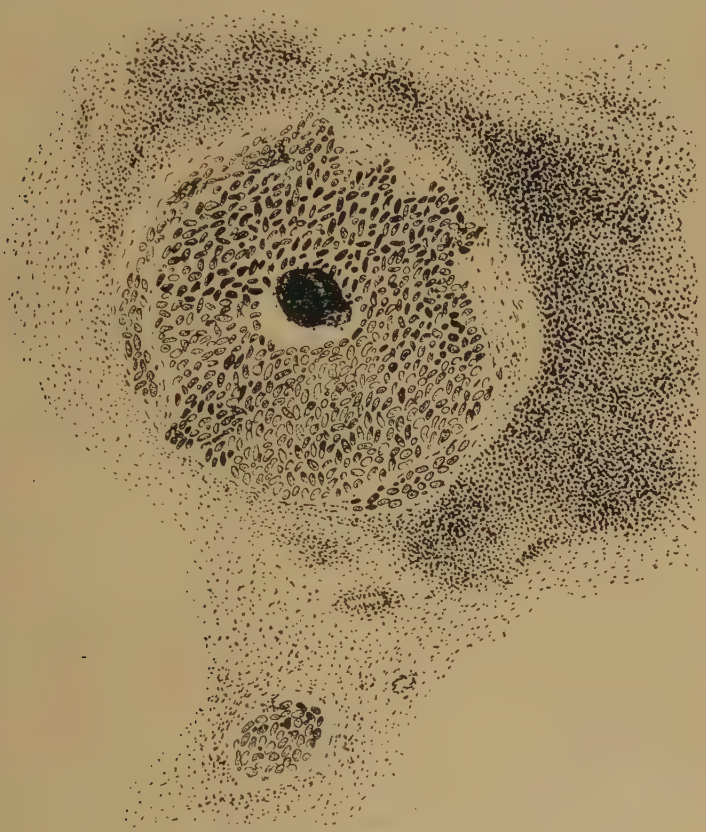


Microscopical drawing II.

What do we learn from all this with regard to the operative methods?

One of the salient points in all the different methods for carcinoma recti is the aim to preserve the function of the rectum by saving the external sphincter. From my own experiences and from all statistics, we know, however, that as a rule, the seat of the cancer is easily reached by digital examination; it is therefore not far from the upper border of the sphincter. Now if we take into consideration the fact, that the cancer frequently extends much further down, especially in the submucosa, than the palpating finger can make out, and if, from comparison with the microscopical specimens described above, we assume the exist-

ence of similar conditions in cancer of the rectum, we must agree that, in the vast majority of cases, it is a dangerous undertaking to save the sphincter. I am fully conscious of the importance of the sphincter muscle, but I believe it is dangerous to arrange the plan of the whole operation with respect to it. Surgeons who plan a rectal operation for cancer, imbued with the paramount importance of the sphincter, are liable to save the sphincter, even if they should find, in the course of the operation,



Microscopical drawing III.

that the carcinoma reaches further down than anticipated. It is hardly necessary to add that at the proximal end of the cancer, likewise, the surgeon must proceed far beyond the diseased tissue. But not only the location of the cancer makes the saving of the sphincter in most cases a hazardous undertaking; the functional result of the preserved sphincter is usually far beneath the expectations. Comparatively few cases have good control and most cases are not much better off than those wherein

the sphincter has been sacrificed, especially if an artificial anus, made by one of the modern methods, replaces the function of the lost sphincter. The only gain is the greater probability of a recurrence. While we agree that the essential feature of the normal sphincter, reflex action, is always wanting in the artificial anus, the annoyance of the artificial anus to the patient is usually not so very great. A short time after the operation, the bowel evacuates its contents with considerable regularity, especially if the patient maintains a careful diet. Nothing comes from the anus then between movements, which occur once or twice a day. If the patient washes out his bowel in the morning, he can attend to his duties all day without discomfort. Our patients have never complained much in this regard. An apparatus somewhat like a truss, removed only for defecation, makes the patient still more comfortable.

Another point of great prominence in all surgical operations is the question of establishing an artificial anus a short while before the operation for radical removal of the cancer is undertaken. It is, I think, the merit of Schlange to have called the attention of surgeons to this point. Aware of the fact that 60 per cent. to 70 per cent. of all cases operated on radically formerly died of sepsis, Schlange suggested making an artificial iliac anus about two weeks before the operation. The distal end was then to be used for rectal irrigation. In this way the chance of primary union in resection of part of the rectum became much greater. Most surgeons now believe in the preliminary establishment of an artificial anus, if resection of the rectum is resorted to. In amputation of the rectum, that is removal of the peripheral end including the sphincter, Schlange himself and most surgeons avoid the artificial anus. I consider it of great importance in *all cases* to establish an artificial anus in the left inguinal region, at least two weeks before the radical operation. By artificial anus, I always mean a real anus, that is the formation of a complete colostomy and not of a fecal fistula. The latter does not accomplish its main purpose, the complete deflection of the fecal current.

There are four great advantages in making a complete colostomy about two weeks before the operation. (1). The incision permits a thorough exploration of the pelvis and reveals the extent and mobility of the growth and the condition of the lymphatics. (2). The general health of the patient, usually suffering from auto-intoxication and sepsis, is improved. (3). The terminal portion of the gut, if left open, can be cleansed by irrigation. (4). The soiling of the site of the operation by fecal discharge is prevented and a much better chance of primary union is gained, in case the sphincter is saved and the divided ends of the gut sutured.

Which of the methods in vogue answers our demands best?

The first step of every operation for complete removal of cancer of the rectum should be a preliminary colostomy at least two weeks before the removal of the cancer. The distal end of the bowel may best be closed and then dropped into the pelvis or, if the obstruction is complete, be sewed in the wound and kept open for cleansing purposes. It is perhaps not essential to lay great stress upon the establishment of a *functionating* artificial anus.

The second step is to remove the rectum with its surrounding tissue and all lymphatics, either by a combined abdomino-perineal, abdomino-sacral, or abdomino-vaginal operation, starting in every case from the abdomen; or to effect the removal of the rectum with surrounding tissue and all lymphatics from below, following either the vaginal, perineal or sacral route, and usually a combination of the various routes. With regard to the lymphvessels, the combined operations are the most thorough, since they afford a better chance for their removal. But since most cancers are located so, that the diseased glands lie in the hollow of the sacrum, the operation from below is permissible. The combined method, however, is preferable, since, as pointed out before, the absolute regularity of the lymphvessels and glands cannot be counted upon.

I had hoped to apply these principles in a case of primary carcinoma of the posterior wall of the vagina encroaching upon the rectum. Just a few days ago, the patient was sent to the hospital, to undergo, if possible, a radical operation consisting of the following steps: first, primary colostomy; second, removal of the whole vagina, uterus, and rectum from below. However, a thorough examination regarding the extent of the disease and closer observation of the patient's condition absolutely forbade such an extensive operation—though the relatives asked us to risk any operation offering the ghost of a chance. There was not even this. In a more favorable case of this kind, the above intended procedure should be carried out. The close anatomical connection between the posterior wall of the vagina and the rectum and the fact, that the lymphvessels from the posterior wall of the vagina encircle the rectum and run toward the sacral hollow, force us to such a radical procedure. The total removal of the vagina for carcinoma necessitates the removal of the uterus, on account of the danger of hæmato- or pyo-metra.

That the anus should be removed in all cases of rectal cancer, except very few, where the cancer is located high up in the rectum, has been pointed out before. In these rarer cases the artificial anus must be established rather high, so as not to interfere with the pulling down of the rectum, in case the radical operation is done from below. The two ends of the rectum will then be sewed together, with a circular suture in the pelvis or, according to Hochenegg or Woelffler, in front of the

anus. Later then, we must of course cure the artificial anus. To perform the radical operation per laparatomiam in such a case means to make a resection of the rectum. Primary colostomy, with frequent washings of the rectum, makes this resection of the large intestine less dangerous. The later cure of the artificial anus completes this operation. This preliminary establishment of an artificial anus with consequent resection of the bowel and final cure of the anus should be the chosen method in all cases of cancer located higher up in the colon. I am able

Specimen No. 4.—Cancer of the splenic flexure of the colon.

to present to you a specimen of cancer of the splenic flexure of the colon transversum (Specimen No. 4). The proximal end is immensely dilated. The stenosis produced by the tumor is almost a complete obstruction. Had the case not been in a moribund state, this method of operation might have been advantageously applied.

Early diagnosis and more radical operations, therefore, must bring about the improvement in the treatment of cancer of the rectum. *Proper statistics must then show the results.* The real value of all cancer opera-

tions is revealed not by the immediate, but by the permanent results and can be properly estimated only in the light of accurate statistics. To be of scientific value, these statistics must deal with the following facts:

(a). Primary results from the operation.
(b). Permanent results (minimum five years without recurrence).
(c). Per cent. of cases radically operable.
(d). Total per cent. of cures.

I am convinced that the primary results of the more radical operations may compare unfavorably with the results of the less radical operations, but that, in the end, the number of cures from the more radical operations will greatly increase. We must of course try to have as low a mortality as possible from the operation itself. The goal towards which we must strive at all times, however, is the increase of the total number of cures. The total per cent. of cures is obtained by multiplying the per cent. of operable cases by the per cent. of permanent cures. If, for instance, an operator has 25 per cent, of cases radically operable and 50 per cent. permanent cures (five years, or more, without recurrence), the total per cent. of cures is 12½. The operator has performed the radical operation on one quarter of all his cases and one half of these were permanently cured. Let us, by early diagnoses and radical operations, aim at better results. May accurate statistics, then, record the rapid progress.

4474 Westminster Place.

HISTORICAL.

THOMSON AND THOMSONIANISM.

By James Moores Ball, M. D., St. Louis.

The nineteenth, known as the "wonderful century," has not been free from medical delusions. It would seem, regardless of our boasted progress, that the human mind at the present day is as easily imposed upon in medical and surgical matters as it was in the darkest period of mediævalism. The philosopher is inclined to look upon such outbreaks with equanimity; for he knows that every such movement, however ridiculous it may appear, contains some elements of good and ultimately redounds to the benefit of the human race.

In this paper I purpose describing one of those illegitimate sons of Aesculapius, who have arisen from time to time to vex the souls of the regular profession. Samuel Thomson was a remarkable man. He was a positive character. Lauded to the skies by thousands of the laity, he was condemned to perdition by the majority of the medical profession. A son of the soil, in youth almost as ignorant as the untutored savages who roamed the forests in proximity to his father's farm, this man succeeded in acquiring a certain amount of medical knowledge, gained the confidence of the public, and founded a system of medicine which has had a powerful and far-reaching influence.

Environment has much to do with character. "Had John Hunter," said Dr. Benjamin Waterhouse, for twenty-seven years Professor of Theory and Practice of Medicine in Harvard Medical School—"had John Hunter, whom I well knew, been born and bred where Samuel Thomson was, he would have been just such another man; and had Samuel Thomson been thrown into the same society and associations as John Hunter, he would, in my opinion, have been his equal, with probably a wider range of thought; but both are men of talent and originality of thought."[1]

Samuel Thomson was born in Alstead, New Hampshire, February 9, 1769, of very poor parents. That country was then a wilderness; there were no roads, and marked trees served to guide the traveler. "When I was between three and four years old," says Thomson in his narrative, "my father took me out with him to work. The first business I was set to was to drive the cows to pasture, and watch the geese, with other small chores, which occupation kept me all day in the fields. I was very curious to know the names of all the herbs which I saw growing, and what they were good for; and, to satisfy my curiosity, was constantly making in-

[1]Wilder: History of Medicine, p. 455. New Sharon, Maine, 1901.

quiries of the persons I happened to be with, for that purpose. All the information I thus obtained, or by my own observation, I carefully laid up in my memory, and never forgot.

"Sometime in the summer, after I was four years old, being out in the fields, in search of the cows, I discovered a plant which had a singular branch and pods, that I had never before seen, and I had the curiosity to pick some of the pods and chew them; the taste and operation produced was so remarkable that I never forgot it. I afterwards used to induce other boys to chew it, merely by way of sport, to see them vomit. I tried this herb in this way for nearly twenty years, without knowing anything

Dr. Samuel Thomson.

of its medical virtues. This plant is what I have called the Emetic Herb, and is the most important article I make use of in my practice. It is very common in most parts of this country, and may be prepared and used in almost any manner. It is a certain counter poison, having never been known to fail to counteract the effects of the most deathly poison, even when taken in large quantities for self-destruction. There is no danger to be apprehended from its use, as it is perfectly harmless in its operation, even when a large quantity has been taken; it operates as an emetic, cleanses the stomach from all improper ailment, promotes an internal heat, which is immediately felt at the extremities, and produces perspiration.

The exclusive right of using this plant for medical purposes is secured to me by patent, and my right to the discovery has never been disputed; though the doctors have done everything they could to destroy the credit of it, by false statements, representing it to be a deadly poison, and at the same time they knew to the contrary, for they have made use of it themselves for several years, and have tried to defraud me of the discovery. I feel perfectly convinced from near forty years' experience of its medical properties, that the discovery is of incalculable importance, and if properly understood by the people, will be more useful in curing the diseases incident to this climate than the drugs and medicines sold by all the apothecaries in the country."[2]

It is unnecessary to trace the life of this individual. While yet a mere lad he was able to cure cases which defied the skill of the local physicians. He continued to gather information from old women and herb doctors and occasionally experimented upon healthy persons. Gradually he became known as a doctor and from his success he believed himself inspired. His lack of education did not weigh heavily upon him. "I finally concluded to make use of that gift which I thought nature, or the God of nature, had implanted in me." After determining to make a business of medical practice Thomson found it necessary to formulate a system. "I took nature as my guide, and experience as my instructor; and after seriously considering every part of my subject, I came to certain conclusions concerning disease, and the whole animal economy, which more than forty years' experience has perfectly satisfied me is the only correct theory." This theory briefly is: all animal bodies are composed of four elements, earth, air, fire and water. "Earth and water constitute the solids, and air and fire, or heat, are the cause of life and motion. That cold, or lessening the power of heat, is the cause of all disease; that to restore heat to its natural state, was the only way by which health could be produced; and that, after restoring the natural heat, by clearing the system of all obstructions and causing a natural perspiration, the stomach would digest the food taken into it, by which means the whole body is nourished and invigorated, and heat or nature is enabled to hold its supremacy; that the constitutions of all mankind being essentially the same, and differing only in the different temperament of the same materials of which they are composed; it appeared clearly to my mind, that all diseases proceeded from one general cause, and might be cured by one general remedy; that a state of perfect health arises from a due

[2]Thomson: New Guide to Health; or Botanic Family Physician. Containing a Complete System of Practice on a Plan Entirely New, With a Description of the Vegetables Made Use of, and Directions for Preparing and Administering Them to Cure Disease. To which is prefixed a Narrative of the Life and Medical Discoveries of the Author. By Samuel Thomson. Duodecimo, pp. 228 and 168. Boston: J. Q. Adams, Printer, 1835.

balance or temperature of the four elements; but if this is by any means destroyed, the body is more or less disordered. And when this is the case, there is always an actual diminution or absence of the element of fire, or heat; and in proportion to this diminution or absence, the body is affected by its opposite, which is cold. And I have found that all disorders which the human family are afflicted with, however various the symptoms, and different the names by which they are called, arise directly from obstructed perspiration, which is always caused by cold, or want of heat; for if there is a natural heat, it is impossible, but that there must be a natural perspiration." Thomson further held that since metals and minerals are heavy and are obtained from the earth, their tendency is to draw those who use them downward toward the earth; whereas, vegetables growing upward, their tendency is to develop and benefit those who use them.

The therapeutics of Thomson is delightfully simple. "The first and most important consideration was to find a medicine which would establish a natural internal heat, so as to give nature its proper command." For this purpose he used *Lobelia inflata* which had been described botanically by Linnæus, but the discovery of whose medicinal virtues is claimed by our author. "To hold the heat in the stomach until the system can be cleared of obstructions" the best agent is Thomson's "No. 2," or capsicum. "My next grand object was to get something that would clear the stomach and bowels from canker" and "my preparation called No. 3 is the best for that purpose." This may be any one of several articles—bayberry, white pond lily, hemlock, marsh rosemary, sumach, witch-hazel, red raspberry, or squaw weed.

"My general plan of treatment," says Thomson, "has been in all cases of disease, to cleanse the stomach by giving No. 1, and produce as great an internal heat as I could, by giving No. 2, and when necessary, made use of steaming, in which I have always found great benefit, especially in fevers; after this I gave No. 3, to clear off the canker; and in all cases where the patients had not previously become so far reduced as to have nothing to build upon, I have been successful in restoring them to health."

Thomson's career was a variegated one. By the machinations of a "regular" physician he was indicted for murder in 1809 and was triumphantly acquitted, the chief witness against him being soon thereafter convicted of grave robbery. In 1813 Thomson obtained a patent on his "system." He wrote a book which was sold together with the right to practice the "system" in a limited area. These books were sold all over New England and in what was then the West, and the Thomsonian practice became a popular fad. The most ignorant people became physicians and practiced on the lines laid down by the New England farmer. Thom-

son traveled extensively. "Since my last edition was printed in Boston, I have been six times in and through the State of Ohio." That these books met with an extensive sale is evident. "The practice has spread rapidly in the southern and western States," wrote the author, in 1831, "which has so much alarmed the doctors that they have succeeded in getting laws passed, in almost all the States, to prevent the spread of my practice." Thomson says these laws only tended to make his system spread the faster, "like whipping fire among the leaves."

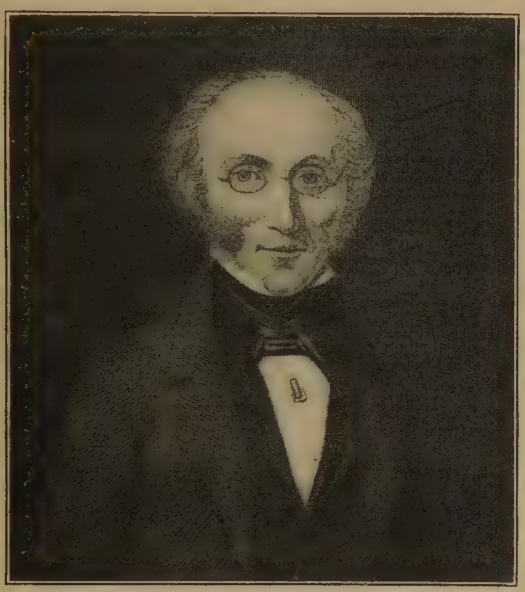
He predicts that "the dernier resort of the doctors will be to get my practice into their own hands, and under their own management, if possible. Finding that I should succeed in my Botanic practice, certain individuals of them have set up what they call a reformed college, in New York, where they have adopted my practice as far as they could obtain a knowledge of it from those who had bought the right of me and would forfeit their word and honor to give them instruction. And finding that the Botanic practice gained very fast at the West, they have established a branch of their reformed college in Worthington, Ohio."

Thomson held his followers well in hand until about 1830. Many then rejected his claims to a monopoly, broke away from him, modified or added to his practice, and called themselves followers of the botanic or botanico-medical system, and later the reform medical system. They established colleges and journals and produced considerable text-book literature. While similar to Thomsonianism, the new system was conducted in an ethical manner and the claims of proprietorship were denied. The greatest strength of the movement was in Ohio, Massachusetts, New York, Pennsylvania and Georgia. Their earliest colleges were the Botanico-Medical College of Ohio (Cincinnati), chartered in 1838, and the Southern Botanico-Medical College (Forsyth, Georgia), organized in 1839. The former became extinct in 1880; the latter was removed to Macon in 1846, and in 1854 became the Reform Medical College of Georgia. The name was changed again twenty years later to College of American Medicine and Surgery, of Atlanta, Ga. In 1884 it was merged into the present Georgia College of Eclectic Medicine and Surgery. The Botanic colleges found a resting place for the most part in eclecticism; some, however, entered the fold of Physio-medicalism.

Botanic medicine was introduced into England about 1845 by Dr. A. I. Coffin, of Manchester. His *Botanic Guide to Health* passed through numerous editions and the system found much favor among laymen. His followers were named Coffinites.

Thus the Botanic, Eclectic and Physio-Medical sects with which this country abounds can be traced to Thomson. What was the reason for his success? This question can best be answered by turning for a moment to the medical practice of the time. Everywhere doctors were bleeding or

salivating their patients. The use of mercury, the lancet, the denial of water to fever patients, were a part of accepted treatment by the regular profession. Even in yellow fever the victims were bled not once, but repeatedly. Regardless of the great discoveries in anatomy and surgery the practice of medicine remained in a frightfully low condition until long after the beginning of the nineteenth century. Although the Thomsonians vomited, purged and steamed their patients, often no doubt with fatal effect, yet their practice proved to physicians how erroneous their own methods had been. The adherents of Thomsonianism also did good by directing the attention of the regular profession to the efficacy of many



Dr. A. I. Coffin.

indigenous medicinal plants. That several medical sects should have arisen as a result of Thomsonianism is to be regretted; but there is satisfaction in the thought that many of their colleges have done good work and have compared favorably with many of the so-called regular medical schools, whose diplomas, as every unprejudiced member of our profession knows, only too often are conferred upon the undeserving.

The term Eclectic is said to have been used first in this country by the great botanist, Constantine Rafinesque, who in 1817 held the chair of botany in Transylvania University. In his *Medical Flora,* published in Philadelphia in 1828-30, he describes the doctors of the United States in terms which are not very flattering. He divides them into Rationals,

Theorists and Empirics. "The Rational medical men are liberal and modest, learned and well informed, neither intolerant nor deceitful, and ready to learn or impart information. They comprise the Improvers, Eclectics

NEW

GUIDE TO HEALTH;

OR

BOTANIC FAMILY PHYSICIAN.

CONTAINING

A COMPLETE SYSTEM OF PRACTICE,

ON A PLAN ENTIRELY NEW:

WITH A DESCRIPTION OF THE VEGETABLES MADE USE OF, AND DIRECTIONS FOR PREPARING AND ADMINISTERING THEM, TO CURE DISEASE.

TO WHICH IS PREFIXED,

A NARRATIVE

OF THE

LIFE AND MEDICAL DISCOVERIES

OF THE AUTHOR.

BY SAMUEL THOMSON.

BOSTON:

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Title-page of Thomson's Book.

and Experimentalists." He speaks of the Theorists as proud and deceitful. "They follow a peculiar theory, and mode of practice, with little direction, employing but few vegetable remedies, and enlisting under the

banner of a teacher or sect. They are divided into many sects, always at war among themselves and with their rivals, such as the Brunoists, Galenists, Mesmerians, Skeptics, Chemicalists, Calomelists, Entomists, etc."

The Eclectics of the United States date the origin of their school from 1827 when Dr. Wooster Beach, of New York, founded an infirmary from which grew the Reformed Medical College. The school at Worthington, Ohio, organized in 1832 was removed to Cincinnati and chartered in 1845 under the name Eclectic Medical Institute. It has an excellent reputation for doing good work.

The principles on which Eclecticism is based were gradually developed. Beach and his contemporaries vigorously assailed the sanguinary methods of treatment used by the regular school. They condemned the use of such drugs as mercury, arsenic and antimony and advocated the use of "safe and mild remedies," especially those of vegetable origin. They favored the use of native plants and hence became known as practitioners of the "American system." They developed the manufacture of concentrated preparations of drugs. They opposed therapeutic nihilism. They professed a broad and liberal spirit, individual liberty of opinion and the obligation to employ the best agents in the cure of disease. The doctrine of specifics, developed within the last forty years, is an article of Eclectic faith.

EDITORIAL.

POWERS OF THE STATE BOARD OF HEALTH JUDICIALLY DEFINED.

A decision of the utmost practical importance to the profession was recently handed down by the Supreme Court of the State of Missouri. It defined clearly the status of the State Board of Health and determined its powers with reference to the revocation of licenses on account of alleged "dishonorable and unprofessional conduct."

The cause, entitled State ex rel. S. M. McAnnally vs. R. H. Goodier et al., was heard before the Court in Banc, Judge LeRoy B. Valliant delivering the opinion of the Court, the result of which received the unanimous concurrence of the Judges of that tribunal. Here is the first expression by an Appellate Court of Missouri defining the power of the Board of Health in the matter of revocation of licenses to practice. Heretofore, in the case of State vs. Hathaway, 115 Mo. 36, the Court had declared that it was a proper exercise of power for the Board, under legislative authority, to require a good moral character of the applicant as well as literary and technical attainments before a license would in the first instance issue. But, manifestly, it is a more serious and sweeping exercise of power to revoke than to refuse to issue a license. A revocation is more clearly a deprivation of property, and the constitutional provision guaranteeing to every man "due process of law" might be the more cogently invoked by him who had once been granted the right to practice than by him who was only an applicant for this privilege. The overwhelming authority in other jurisdictions had been in favor of the constitutionality of similar statutes. The Supreme Court of Missouri in the McAnnally case did not enter upon a detailed consideration of the constitutionality of the section of the act, but the practical effect of the decision is an acceptance of this without question, in view of the fact that the Court in specific terms sustains "the power to revoke." The matter particularly decided was that the Board of Health is not a strictly judicial body. And in view of the fact that the objection most strongly urged against the constitutionality of such acts is that they confer judicial powers upon other bodies than courts of law, a decision that here no such judicial powers were granted goes far in itself to establish the constitutionality of the act in question.

The charges against relator, McAnnally, filed before the Board, were in effect that for several years he had been "in the continuous and almost exclusive occupation of selling intoxicating liquors without a license and without a prescription in a drug store kept by him; that he sells liquors

to be drunk on the premises; he sells every day in the week, Sunday included, and that he sells to minors; that he conducts the business in open defiance of the law and that it constitutes a public offense."

After service of the citation on relator, he requested the Secretary of the Board to summon certain witnesses to appear and testify in relator's behalf. The Board was to sit in Kansas City and the witnesses for whom the relator desired to have subpœnas issued resided in Bollinger County. The Secretary replied that he had no authority to issue subpœnas and no funds out of which to pay witnesses for their attendance, that "so far as the action of the Board was concerned the only witnesses that would come before it would come voluntarily, and therefore relator would himself have to attend to the matter of procuring the attendance of his own witnesses." The relator prayed in his petition that a writ issue against the members of the Board prohibiting them from proceeding in the matter.

To sustain the theory of his case in thus requesting a writ of prohibition, and in making good his complaint that the issuance of subpœnas was improperly refused, relator must have established that the Board of Health was acting as a judicial tribunal. His contentions failed—the Court held that the writ of prohibition would not lie to prevent the investigation. "The State Board of Health," said Judge Valliant, "is not a court, is not a judicial tribunal; it can issue no writ, it can try no case, render no judgment; it is merely a governmental agency, exercising ministerial functions; it may investigate and satisfy itself from such sources as may be attainable as to the truth or falsity of charges of misconduct against one holding one of its certificates, but its investigation does not take on the form or character of a judicial trial. The law does not contemplate that the technical rules of evidence applicable to a judicial trial will be strictly followed or that compulsory attendance of witnesses will be made. It contemplates that a plain, honest, common sense investigation shall be made with good faith and as thorough as may be with the light of such evidence on either side as is obtainable without process and with the means at hand; much like the investigation that fair-minded, intelligent men would make in their own business concerning the alleged misconduct of one of their employes, with this difference only: that the Board cannot revoke the license except for cause and after the accused has had an opportunity to be heard."

The effect of this decision is most gratifying. It establishes a latitude of investigation in two respects—substantively, as regards the character of the offense which forms the subject of the inquiry, and to which a penalty is sought to be attached; adjectively, as regards the method of procedure to be adopted in conducting that inquiry. An act on the part of the licentiate, not necessarily an offense against the criminal law of

the state, may yet be of sufficient gravity as to amount to "dishonorable or unprofessional conduct" and thus to justify a revocation of the license to practice. The gravamen of the complaint against the practitioner is not that he may have been guilty of a crime in the line of his profession, but that he has grossly abused his professional privileges. A technical crime need not be established. It is enough to prove the essence of a crime, or, what may be less, a moral turpitude in the practice of his profession. The records of our courts tell of successive failures on the part of the State to "establish its case" because every element of the alleged crime could not be proved. Crime lurks in the dark—and especially is this true in matters professional where the offender and prosecutor are frequently the only parties who may testify as to the principal fact. The result follows that the defendant has not been proved to be guilty "beyond a reasonable doubt." This is not necessarily a weakness in the criminal law. The commission of a crime carries with it severe penalties. A proof of guilt involves the life and liberty of the citizen, and that is, indeed, a safe and salutary principle of law which throws around him every reasonable safeguard. But it is an equally wholesome principle that removes the necessity of proof of a technical offense where its commission does not carry with it anything more than a forfeiture of professional privileges.

Furthermore, the procedure in the trial before the Board, for similar reasons, need not be so formal or so technical as in a court of law. The charges are not required to have the definiteness of an indictment or information. The admission of evidence is not to be subjected to the nice and precise tests as prevail in the ordinary judicial trial. But there must be an orderly procedure—the defendant must be given an opportunity to be heard in his defense, and when so heard his license may not be revoked except for cause.

On the other hand, the decision that the Board of Health is not a judicial tribunal carries with it a single unforunate condition. Judicial process cannot issue from the Board—witnesses cannot be forced to attend by subpœna; they may come only voluntarily. While this result operates to the disadvantage of both the Board and the defendant, it has the effect of imposing upon the complainant the duty of being active and vigilant in securing the attendance of witnesses for the purpose of proving its case. The defendant, in the fear of losing his license to practice, has a sufficient incentive to see to it that his witnesses do not fail him to the end of establishing his defense. The Board, on the other hand, being complainant in the several cases which may be presented for hearing, holding in addition the initiative in the proceedings, the burden of going forward, the duty of establishing its case, and, moreover, its members residing at points perhaps remote from the place of trial, may

find itself hampered in not being able to force attendance of its witnesses by subpœnas, but, instead, in being required to be on the alert to see at its peril that all of the witnesses in all of the cases to be heard may be on hand at the time and place of trial. In this respect the action of the St. Louis Medical Society looking to the presentation and prosecution of cases before the Board, among other things, is to be commended. The Society assumes active charge of these cases from beginning to end. It furthermore proposes to ferret out the evidence in cases where there is grave suspicion of dishonorable or unprofessional conduct, and present the same for the consideration of the Board of Health. It behooves the regular physician to be active in furnishing information of such misconduct as he may meet with in the course of his practice, thus to purge the profession of the charlatans who flourish at the expense of the unsuspecting public.

MEDICAL EXPERT TESTIMONY.

There has been much written and spoken about the necessity of improving the standing of expert medical witnesses and the quality of expert testimony before the courts of law. In matters purely medical the need of some active effort to change the present low standard is very evident. It is conceded by nearly every one who has given this subject any thought, that the ends of justice will be served best if expert testimony should be given on the question itself, and not according to the interest of one side or the other. This being so evidently a conceded point, it might be worth while to inquire into some of the factors which are working against the establishment of a system which is obviously an improvement of that in vogue at the present time.

It is apparent that if all parties involved in the question were to make a concentrated effort for the betterment of the system, it would only be a question of time before the present method would disappear. The fact is, that this effort has been always lacking and therefore the isolated attempts that have been made towards this end have failed to arouse sufficient interest to be effective. If we examine into the position taken by the lawyer in the matter of expert testimony, it will be found that he is loath to surrender the right to protect his client in any way that is legitimate within the limits of accredited legal procedure. A disputed point involving a medical question is to him no more than a matter of evidence, or of deduction from fact, and if this point can be presented from his side in a light that will influence the jury in his way, then he is standing upon a fundamental right to have it so presented. According to his way of thinking, a question involving a medical fact, or conclusion to be drawn from that fact, is open to the same sort of prejudiced interpretation than any other body of fact is, and he feels that he has the right beyond dispute to use this in any way that may help

his client. From the strictly legal point of view this position is unassailable. It is probable that no large support for the revision of expert testimony will be obtained from the body of trial lawyers.

The physician in general is either an uninterested party in this whole question, or he is prone to regard any effort made to limit the qualification of experts as an attempt to deprive the profession at large of a certain amount of legitimate court business. Legal custom has defined the position of expert within very wide limits, chiefly to the assertion on the part of the witness that he is an expert because he says he is. From the point of view of physicians, the question has two important features: the qualification of expert medical witnesses and the employment of such experts by the defendant, or by the prosecution. The remedy of one of these lies within the hands of the physician himself, namely, to refuse to qualify as an expert unless he is one. The legal matter will adjust itself after this has been settled. The attitude of the bench, especially on the question of expert medical testimony, is hard to arrive at, but there is quite a widespread feeling that the bench is little impressed by the weight of expert testimony in medical questions because so often it is seen to be prejudiced. Opinion that can be purchased, and that is what it amounts to in many cases, destroys the character of much of the testimony that is really honest. Of the three interested parties in this question the bench in all probability has the least respect for the quality of the expert medical testimony as we see it today.

It can be seen that here is reason enough for the lack of a concentrated effort to relieve the intolerable condition of affairs. Judge, lawyer and physician are all indifferent, and each from a different point of view. The whole subject needs agitation from all sides and some effort should be made to create some kind of intelligent opinion. This opinion should deal with the following fundamental propositions: That matters of scientific fact and deductions from them are not matters of prejudiced opinion and can never be; that an expert is one who has special knowledge concerning a subject which the ordinary man engaged in the same sort of work has not; that an expert medical witness should be one who not only has this requisite knowledge, but who possesses a temperment that is fair, just and capable of seeing the different phases of a question as it is presented to him; that an expert cannot represent one side or the other and cannot be employed by either side, but should serve the cause of justice as the judge and jury do, and in every case give testimony on the question itself as an abstract proposition.

If it is ever possible to obtain a sufficiently strong body of public opinion in this matter, and it is the public after all that is most vitally affected, then the three individuals involved will lead in the effort for the improvement of expert medical testimony in the courts of law.

COMMENT.

DR. C. A. SNODGRAS.

The City of St. Louis is called upon again to mourn the death of a public servant whose promise of further usefulness was cut off by his untimely end. Dr. Snodgras was a civic servant and to the performance of his citizenship his best effort was dedicated. That he was a physician, and that medicine was his profession, are of less moment than the fact that he represented the city in which he lived, in its relation to the science of hygiene, which includes, as its chiefest element, preventive medicine.

The pathos of his sudden taking off is made more acute among those who knew him well by a knowledge of the largeness of his plans and by the thought that he was allowed to complete so small a part of them.

The dominant characteristic of his official character was the deep consciousness of the responsibility of the office he was chosen to fill. A sense of aloofness from the political atmosphere commonly associated with the office of health commissioner impressed itself upon those brought into official relation with him. Even in the short tenure of his office these two traits made his position secure among those who had the best interests of the city's health at heart. He had dedicated himself to the improvement of the city's institutions for the care of the sick poor and there was a feeling of confidence in his ultimate success though the way was seen to be beset with difficulties.

In his life and work Dr. Snodgras struck the note of true immortality and that is the creation of a standard and the implantation of an ideal of public service. These will remain as a part of the office of the health commissionership when the tangible results of his short activity have long disappeared. That this city and the medical profession will never rest satisfied with a lower ideal of stewardship than he tried to establish, is the permanent contribution of Dr. Snodgras' life to the spirit of civic righteousness in St. Louis.

COMMERCIALISM, PROFESSIONALISM AND THEIR MUTUAL RELATIONS.

The editorials which appeared in the St. Louis *Medical Review* last June have been gathered together by their author, Dr. Kenneth W. Millican, into a booklet. The analysis of the meaning of the terms "commercialism" and "professionalism" is made not only so that he who runs may read, but in addition be forced into thoughtful consideration. The key-note of this analysis is the following:

Medicine is a calling, and should be animated by a spirit of true pro-

fessionalism in those who follow it as a calling. It should not be undertaken from motives of self-interest, but should be undertaken as a duty. Commercialism, on the other hand, is concerned primarily with self, and only secondarily, and not necessarily, with others. Honest commercialism does not seek to enrich itself at its neighbor's cost, but seeks to render service, for which it rightly expects to be properly and adequately compensated. The incongruity which exists between commercialism and professionalism implies no derogation to either one or the other. The methods of legitimate trade are good things in trade, but trade methods are out of place in a profession.

"The man who enters upon a profession—especially the profession of medicine—with commercial standards, is doing not only wrong to the profession, but a foolishness to himself; for the seeker after the commercial standard of success has open to him therein few prizes obtainable by honest and honorable means, and none at all comparable in magnitude to those offered by commerce, honest as well as dishonest."

The sense of vocation in medicine is, however, apt to be, and often is, hampered by the fact that he who feels with the keenest sense "the call" must, nevertheless, live by his labors. "The laborer is worthy of his hire," but *hire* does not mean gain, one implying merely adequate maintenance, the other acquisition of possessions. The man approaching most closely and literally to the highest professional idea is the country practitioner in sparsely settled districts, whose fees are at times paid in corn, poultry, fruit, or what not. This comparison suggests only a return to first principles, that is, that medicine should be practiced on a basis of service for service, not for gain and profit. A man who places before himself as an object the accumulation of possessions has a commercial aim, legitimately commercial perhaps, and therefore perfectly honorable, but nevertheless commercial, and at variance with true professionalism.

These precepts, so clearly enunciated in Dr. Millican's editorials, may seem slightly hackneyed when reduced to the skeleton form above given. We can but agree with Dr. Millican, however, that a better understanding *of* the meanings of the words "professional" and "commercial" should be diffused throughout the medical community. Dr. Millican's editorials have pointed out these distinctions in admirable style. Our only comment thereon is the desire to reinforce and accentuate the salient points, which are so important to our general welfare and our standing in the community as professional men. We have the hope, in indulging ourselves in this reiteration, that any professional man whose attention it may engage, may realize a revival of an old idea, altruistic, perhaps, it may be, but nevertheless one that has upheld the medical profession through the past ages, and upon the maintenance of which medicine will be saved from the slough of commercialism. This idea, or let us say ideal, is

that medicine is a *vocation* not to be entered upon from motives only of self-interest.

FIRST AID TO THE INJURED.

The advisability of instructing the laity in the principles of first aid to the injured is practically admitted in all quarters. The debatable ground is furnished by the question of what constitutes the proper tuition applicable to the non-professional, to the uneducated and to the ignorant. Between the enthusiast who advocates providing every freight and passenger crew and section gang with a complete outfit of dressings, emergency apparatus and hypodermics, and the ultra conservative who would only trust the rigidly educated with these weapons of defense and offense, there remains a broad field where tuition in first aid may yield good results.

Among all classes of employes there will be found some individuals of sufficient intelligence to grasp the essentials of asepsis and antisepsis as well as the best methods to combat shock and check hemorrhage, allay fear and handle and transport the injured. These persons should be selected and instructed by a process of personal acquaintance by the various railroad surgeons along the lines. They should also be provided with the simplest materials for carrying out the first aid work. This plan can be used also in factories and schools by local health officers.

The statistics of railroad casualties during the three months ending June 30th, 1905, as published by the Interstate Commerce Commission, certainly suggest good reasons for more universal extension of the first aid provisions and instructions adopted by a number of railroads. The number of persons killed in train accidents as reported by railroad companies of the United States during this time was 262 and of injured 2,764. Accidents of other kinds including those sustained by employes while at work and by passengers in getting on and off cars bring the total number of casualties up to 14,669, in which 886 were killed and 13,783 injured. In train accidents the number of fatalities during the quarter ending June 30th is decidedly larger than in the previous quarter, or in the corresponding quarter of last year, while for the whole year ending June 30th, there was an unprecedented total of 350 passengers killed in train accidents, besides 187 deaths of passengers from other causes. From accident to trains and other causes 10,040 passengers sustained injuries. When to these data it is added that among the employes 3,261 were killed in various ways, and 45,426 were injured, the necessity or advantage of having prompt and intelligent first aid seems to require no argument.

HISTORY OF MEDICINE.

Recognizing the interest which medical history holds for the physician, we have devoted some space in the past to this subject, and in the future we expect to make it an important feature of the INTERSTATE.

It will be our endeavor to present not only biographical sketches of men who contributed toward the advancement of medicine during the past centuries, but also to reproduce some of the more interesting illustrations of early medical works and events, portraits of early anatomists and half-tone reproductions of the more noted paintings which are of interest to physicians on account of the subjects presented.

MEDICAL AND SURGICAL PROGRESS.

INTERNAL MEDICINE.

IN CHARGE OF
JESSE W. MYER, M. D.

TWO POSSIBLE CAUSES OF EMACIATION NOT GENERALLY RECOGNIZED.—Cabot (*Jl. Am. Med. Assn.,* March 17, 1906) points out the fallacies in the usual routine efforts to increase and decrease weight, and states that it is not as simple as the loading and unloading of a vessel. Our state of nutrition depends upon the number, the contents and the activities of our body cells.

The chief factors in nutrition are (1) ingestion of food, in quantity and quality suited to individual needs. (2) Utilization of food, digestion, absorption, metabolism and excretion. (3) Cell growth as influenced by age, sexual factors, internal secretions, sleep and other forms of rest, exercise and other forms of activity, hereditary, individual and psychic factors. He discussed each of these factors and concludes that loss of weight is often observed as a part of the aging process in persons past middle life; that this emaciation is often associated with arteriosclerosis, possibly as a result of it, possibly as the concomitant effect of some third factor.

The rapid gain in weight often seen in growing children and in the convalescence from wasting diseases is not directly a result of abundant food and may occur even when the food supply is far below normal. The gain must be referred to an extraordinary rapid cell production due primarily to heightened growth energy in the cells themselves. Influences connected with the organs of sex may exert a controlling force on nutrition, as is strongly suggested by the changes in flesh and figure following parturition and menopause. The importance of internal secretions in the maintenance of perversion of nutrition is exemplified in the emaciation of Graves' disease, the increased weight of the myxedematous and perhaps in the more local hypertrophies of acromegaly and Paget's disease. The possibly decisive influence of insomnia on weight is suggested by the rapid emaciation sometimes occurring in cases of aneurism when sleep is prevented by pain, though appetite remains excellent.

THE PHYSICAL TREATMENT OF HABITUAL CONSTIPATION.—Tobias (*Berliner Klinische Wochenschrift,* No. 6, 1906) follows Fleiner's classification of obstipation into atonic and spastic. The two conditions are due to different etiological factors and require different treatment. While the former must be treated through a stimulating diet, hydrotherapy, with variable degrees of temperature, electricity, gymnastics and massage, the spastic cases on the other hand should have no electricity or massage, a non-irritating and non-stimulating diet, and should be treated as neurasthenics generally are treated.

THE CONSUMPTION OF THE VARIOUS SUGARS IN DIABETES.—Petitti (*Berliner Klinische Wochenschrift,* No. 6, 1906) following up the work of Orlowski, who used glucose only in his experiments, endeavored to determine the degree of consumption of the various kinds of sugar uninfluenced by the liver. In order to accomplish this the rectum was tamponed high up, and sugar solutions were introduced into the lower part of the rectum. These experiments were carried out upon diabetics as well as upon healthy individuals. The author found that sugar was absorbed as such in the rectum, without any marked degree of bacteritic decomposition taking place. It could not be said that the sugar was utilized any better per rectum than per os. At times the one was more complete, and at times the other. It is not possible to say what influences bring about the variation. In diabetics, the amount of dextrose excreted was always increased through the ingestion or injection of sugar, and this regardless of the kind of sugar used. The author is not prepared to say which sugar is best utilized by the diabetic. It seems, however, to be the milk sugar. In severe cases of diabetes neither the existing acidosis nor the amount of sugar seemed to be in any way influenced by the introduction of sugar per os or per rectum. Sugar enemata, especially the milk sugar, have a place in the diet of the diabetic.

THE DIETETIC TREATMENT OF ULCER OF THE STOMACH.—Senator (*Deutscher Medizinische Wochenschrift,* No. 3, 1906) reviews the recommendations of Lenhartz, *viz*: that ulcer cases, even immediately after a hemorrhage, should have a strong albumen solution in order to replace as quickly as possible the blood and strength that has been lost. This was recommended in the place of exclusive rectal feeding, which had been the generally accepted treatment in cases with hemorrhage. Along the same lines the author recommends the employment of gluten, fat and sugar together with small amounts of albumen. The advantages claimed for these articles of diet are that being concentrated forms, they do not act as a weight in the stomach, nor distend the organ; they have a sedative action and do not produce hemorrhage; they counteract the surplus amount of acid present, and are easily digested and highly nutritious. Immediately after the hemorrhage he gives, every half hour, a tablespoonful of gelatin solution (20 to 200), and follows this with small quantities of cream and butter, so that in 24 hours the patient has received 30 grammes of butter and 250 cc. of cream (900 to 1000 calories). After several days the patient is given milk and eggs, and later still scraped beef. The gelatin decoction is discontinued as soon as the hemorrhage ceases so that it may be resorted to again in case of fresh hemorrhage.

INVESTIGATIONS CONCERNING GASTRIC MUCOUS.—Schutz (*Archiv. f. Verdammgskr.,* Vol. XI., No. 5) believes that too little stress is laid upon the presence of mucous in the stomach. In spite of the fact that its presence is considered pathological, and diagnostic of gastritis, but few pay heed to its presence. The chief difficulty is in demonstrating it and differentiating it from extraneous mucous. He finds that mucous

that is intimately admixed with the food is from the gastric mucous membrane and that it responds to color tests. Through the staining and microscopical examination he was able to demonstrate an abnormal amount of mucous in a very large number of cases.

The Border Line in Medicine and Surgery.—Janeway (*Medical Record,* March 17, 1906) discusses that debatable ground known as the border line of medicine and surgery. Though asepsis enables the surgeon to do successfully much that could not be undertaken in previous years, he warns against the dangers of unfulfilled predictions and too great optimism. He points out, too, the dangers of bringing surgery into disrepute through taking surgical chance in hopeless diseases, and charging a large fee for so doing. In dealing with border line cases it is advisable to obtain as nearly as possible an accurate diagnosis before resorting to surgery; all available means should be employed in order to form a correct diagnosis. If this is not done, unnecessary operations may be performed, or having been begun may have to be repeated in another direction. In support of this statement he mentions, as examples, renal calculus and appendectomy, gall-bladder disease and appendicitis, etc.

The author discusses many questions of interest to both the surgeon and the internist in their relationship to one another. The internist in many cases must decide promptly and definitely as to the indications. As an example, he mentions the danger of hemorrhage in cases of protracted jaundice, and points out the importance of deciding early in regard to the probable need of surgical intervention. Operations upon the kidney for decapsulation have shown that the presence of albumen and casts is not a contra-indication to anæsthetics and surgical intervention. The physician has not infrequently to consider carefully whether the degree of anemia present is such that he must advise against surgical interference until an attempt has been made to bring about a better blood state. The author questions the advisability of urging patients to dubious palliation, as the production of a gastric fistula in cancer of the esophagus, or artificial anus in an inoperable cancer of the rectum not markedly obstructive. Taken as a whole, the paper simply tends to show the great importance, both to the patient and to the science of medicine, of the internist and the surgeon working together in harmony.

Endocarditis in Tuberculosis.—Sorgo and Suess (*Wiener Klinische Wochenschrift,* No. 7, 1906) report a case of endocarditis in a tubercular individual, which was shown to be of tubercular origin. There have been many cases of endocarditis reported in tuberculosis in which no specific cause could be demonstrated. In only a few cases have definite tubercular lesions been found in the endocardium. In this case there were typical tubercles with giant cells, caseation and tubercle bacilli.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF
CARL FISCH, M. D.

THE IDENTITY OF FUSIFORM BACILLI AND SPIRILLA.—Ruth Turncliff (*The Jour. of Infect. Diseases,* Vol. 3, No. 1.)—At the present time, Turncliff's article is of great interest with the general study of spirilla and of spirochætes going on after Schaudinn's discovery. The author succeeded in cultivating from normal throats the sword-formed or fusiform bacilli first described by Plaut and Vincent in ulcero-membranous stomatitis. Their constant presence in this condition in the company of a very delicate spirochæte have given rise to many speculations; together with the peculiar form and structure of the "bacilli," their seemingly constant combination with the spirilla led to the assumption that they were organisms different from bacteria and rather protozoic in nature, corresponding to the results of Schaudinn's work on spirochæte nocturæ. From the material examined, Turncliff obtained pure cultures of the bacillus, not of the spirilla. They grow as obligate anærobes on ascites agar and show all of the characteristics found in the original material. In studying the cultures closely, the author observed a gradual change of the bacilli into spirilla, that appear identical with the spirilla found in the mouths of the persons examined. The author's description, the transition stages, etc., are very convincing and seem to do away with the objection, that the spirilla could have been present in the culture in a stage of development not to be identified in a later stage then appearing as spirochætes. No doubt further experiments will soon be reported. A corroborative, although circumstantial evidence for the truth of the author's interpretation may be found in the constant presence in certain lesions other than angina; a number of observers studying the spirocheta pallida in syphilitic lesions have been surprised to always find fusiform bacilli whenever the spirocheta refringens, so-called, is present. The reviewer can add to this the positive findings in about 30 cases. The subject is of intense interest theoretically.

CONTRIBUTION TO THE KNOWLEDGE OF TUBERCULOSIS IN CHILDREN.—(*Jahrbuch. f. Kinderheilk.,* Vol. 62, Heft. 4.) Fr. Hamburger and Erick Sluka.—The authors attempted by a large number of autopsies on children to contribute to our knowledge of the frequency and localization of the tuberculous process at this period of life. The methods used were those of Naegeli in his extensive autopsy work. Four hundred and one autopsies were made, and in 160 of them (40 per cent.) tuberculous foci were discovered. It appeared that the frequency of tuberculous infection increased year by year; that, however, the mortality steadily decreased. All children infected during the first year of life died of tuberculosis. With the years the number of those, in which tuberculous lesions were found only as secondary phenomena, steadily increased. Of the 160 cases, where the examination resulted positive, 157 showed tuberculous changes of the bronchial glands, 57 lesions of the mesenteric glands, and 47 lesions

of the lymphatics of the neck. The author's findings do not bear out with the assumption, that the infection arises as a primary intestinal infection.

Phagocytosis of Pathogenic Microorganisms in the Test Tube.—E. Loehlein (*Ann. de l' Inst. Pasteur,* Vol. 19, No. 10.)—The experiments were made in the laboratory of Metschnikoff with anthrax, cholera, coli and streptococcus organisms. The leucocytes of guinea pigs were washed several times and therefore fully freed from any amboceptor or of other substances favoring phagocytosis. The author found that under these conditions the leucocytes engulf the bacteria and destroy them by digestion. Phagocytosis, therefore, must be considered a cellular activity that asserts itself without the assistance of active substances that may be present in the fluids of the body. Those bacteria that are not destroyed by phagocytosis in the test tube (certain streptococci and forms of the coli commune) behave in the same way in the animal body. If the animal is infected intraperitoneally by them no phagocytosis occurs, or, at least, only very slowly and incomplete.

The Relations Between Spirochaetes and the Organs of Children With Congenital Syphilis.—Edgar Gierke (*Muench. Med. Woch.,* 1906, No. 6.)

About the Staining of Spirochaete Pallida in Sections of Tissue.—M. Levaditi (*Compt. Rend. de la Soc. biol.* T. 59, p. 326.)

Flagella in Spirochaetes. E. Zettnow (*Deutsch. Med. Woch.,* 1906, No. 10.)—Spirochæte pallida, that after being changed by its father to a spironema pallidum, now must be satisfied to go under the name of treponema pallidum, according to the rules of enthusiastic nomenclaturists, does not as yet call for such intense efforts at establishing its correct name philologically and historically. The material on hand to give definite clues as to its systematic position is very scanty and imperfect, as is the knowledge of the whole group of organisms, to which, probably, it belongs. The differentiation from spirochæte on the basis of Schaudinn's work has received a severe shock by the work of Zettnow, who succeeded, apparently, by his classic method, to demonstrate flagella in all spirochætes. An undulating membrane he could not find, just as Schaudinn could not find it in spirochæte pallida. Whether spirocheta pallida is a bacterium, as other spirilla certainly are, according to the latest publications of Koch, or a protozoan, is not certain. It must be admitted, however, that Schaudinn's work on the spirochæte noctuæ has revealed conditions that certainly call for the attempt to look for them in organisms microscopically so very similar to them. The classification of spirochætes and related forms may lead to a revolution in our views on the position of bacteria and other microbes. So far very little is known, and nothing positive. It is perfectly permissible to talk about Schaudinn's organism as spirochæte pallida. A characteristic phenomenon is the subsidence at the present time of publications on the finding of the microbe in syphilitics. The consensus of opinion today is that it is found in every primary and secondary process. Any new attempt to increase the endless series

of positive results already published, will not aid in bringing the subject further to interpretation. Castellani's beautiful work on a spirochæte, almost identical with Schaudinn's form and exclusively found in lesions nearly identical with syphilis, in framboesia, has shown finally, that no chance can obtain in the presence of these organisms always only in such lesions and nowhere else. The few reports that say they can be found elsewhere have long since been contradicted by such direct control (Kiolonoglou and v. Cube), that to cite them is only to acknowledge a superficial acquaintance with the subject. That spirochæte pallida plays the etiologic role in syphilis, is as certain as is the role that lepra bacilli play in the assumed etiology of lepra—not more, nor less. It is impossible to recall a similar specific association in any other pathologic process. This is, of course, only indirect proof, but the chances for obtaining direct evidence are as yet, as said before, very far distant. All that practically has been done is the demonstration of its constant occurrence in specific lesions, always and everywhere, and its absence everywhere else. As said, the hunting for spirochæte has become useless; we know that we will find it if we search properly, and that already it is a valuable adjuvant in diagnosis, perhaps even in therapy. The investigations made, until lately, have merely done this. As a progress are to be considered the attempts to enter into the details of the relation of the organism to the tissues that harbor it. The mechanical difficulties have for a time made futile any attempt in this line; lately this difficulty has been overcome, and we have come into possession of methods that do not rely on smears of fluid material, but demonstrate the spirochæte in the infected tissue. The first results in this way were obtained by Bertarelli, in Italy; a better method was found by Levaditi, who uses a modification of the well known Ramon y Cajal silver impregnation. The work done after this procedure is yet in its infancy. What has been done is very incomplete, yet, at least, shows that the spirochæte is not an accidental phenomenon in syphilis, but stands in very intimate relation to the diseased tissue. The way of reaction on this tissue is by no means clear yet, as shown especially by Gierke's work on congenital syphilis; the reaction must be in some manner different from other inflammatory processes caused by micro-organisms. More extensive study of the lesions of acquired syphilis will soon bridge over this gap, and may lead us to new ideas about the reactions between cell and microbe. There is no disease, the etiology and nature of which is so obscure as syphilis, an experience that has for a long time suggested an origin different from the infectious diseases so well known and interpreted. The discovery of Schaudinn has opened a field that in its extent cannot be overestimated. The combined work of biology, pathology and so-called bacteriology will solve the riddle by complete knowledge of the intimate nature of the spirochæte pallida.

DIAGNOSIS.

IN CHARGE OF
ALBERT E. TAUSSIG, M. D.

TEST FOR BILE PIGMENTS IN THE URINE.—M. P. Carles (*Jl. de Med. de Bordeaux;* ref. in *Gaz. des Hop.,* 1906, No. 27.)—There exist already more than a score of different procedures for the detection of bile pigments in the urine. The following, due to M. Grimbert, is said to be delicate and reliable.

To 10 ccm. of urine add 5 ccm. of a 10 per cent. solution of barium chloride, shake well and centrifugate or allow to stand. The precipitate contains, among other substances, bilirubinate of barium which should be redissolved by digesting the precipitate for a minute on the water-bath with 4 ccm. of alcohol, acidulated with a little hydrochloric acid. The mixture is allowed to settle and the supernatant fluid examined. There are three possibilities:

1. If the liquid is colorless, bile pigment is absent.
2. If it is of a greenish-blue or deep green color, bile pigment is present.
3. If the fluid is of a brownish color, warming it on the water-bath with two drops of hydrogen-peroxide will, in the presence of bile pigments, bring out the green color. If the latter does not appear, the brownish color will usually be due to pigments that have undergone decomposition in putrifying urine.

A HITHERTO UNREGARDED SOURCE OF ALIMENTARY PENTOSURIA.—R. v. Jakoch (*Zentralbl. f. inn. Med.,* 1906, No. 6.)—The writer calls attention to the important observation that, after the ingestion of considerable amounts of unfermented fruit juices, such as grape juice, pentoses will be found in the urine. Such a urine will give positive Trommer's or Fehling's and Nylander's tests and may easily lead to the mistaken diagnosis of glycosuria. The performance of the fermentation test will prevent this error since the pentoses are not attacked by yeast.

A CLINICAL TEST FOR FAT IN THE FAECES.—Hecht. (*Muench. Med. Wochenschr.,* 1906, No. 7.)—In many cases of intestinal disease as well as of disturbance of hepatic or pancreatic function, it is diagnostically of importance to know at least approximately how much of the fat in the food escapes absorption in the intestine. In most of the current methods the stool has first to be dried, a slow and disagreeable procedure. The following short-cut is said to give good results.

The stool is rubbed up with an alcoholic solution of green soap, whereby all of the fat is saponified. Acidify the soap solution with hydrochloric acid, filter and evaporate the filtrate, which contains the fat in the form of an alcoholic solution of fatty acids, to dryness. The sediment is dissolved in a little ether, filtered, and the ether driven off. The residue constitutes practically the entire fat of the stool in a reasonably pure condition. It may either be weighed or estimated volumetrically in an ingenious apparatus devised by the writer for a description of which the

reader is referred to the original article. Its principle is that of the acidobutyrometer used in milk analysis.

A Sphygmoscope for the Determination of Pulse Pressure.—J. Pal (*Zentralbl. f. inn. Med.*, 1906, No. 5.)—The writer has devised an ingenious and apparently inexpensive apparatus, whereby both the systolic and diastolic blood pressure may be determined. It may be used with any of the ordinary armbands such as that of Riva Rocci, with Gaertner's tonometer, etc. In principle it consists of a horizontal capillary tube containing a drop of colored fluid. Both ends of the tube are connected with the constricting armband, but one end may be shut off by the turn of a cock. As long as both ends are connected, the fluid in the capillary tube is not disturbed, no matter what the pressure, since the latter acts equally on both surfaces of the liquid. When, however, by a turn of the cock, one end of the tube is no longer in connection with the interior of the armband, each pulse in the arm drives the fluid back and forth. That pressure at which the excursions of the liquid are greatest is the diastolic blood pressure; the highest pressure at which the liquid still makes considerable excursions is the systolic pressure; the difference between the two is the "pulse pressure." If the invention fulfills expectations it should replace Erlanger's cumbersome and expensive apparatus.

Permanent Cultures for Typhoid Agglutination.—De Rossi (*Zentralbl. f. Bakt.*, 1906, No. 3.)—If cultures of typhoid bacilli are kept for an hour in the water bath at a temperature of 58 to 60 degrees C. (not higher), they will retain for three months or longer an agglutinability with typhoid sera quite equal to that of fresh, living cultures.

Indirect Palpation of Tuberculous Bronchial Glands.—Neisser (*Deutsch. Arch. f. Klin. Med.*, 1906, Nos. 1 and 3.)—Neisser has investigated the sensitiveness to pressure of tuberculous bronchial glands. A stomach tube is introduced into the esophagus and the latter inflated with air. The procedure ordinarily painless becomes very painful in the presence of tuberculous glands in that neighborhood. It may occasionally be of diagnostic value. In a case, for instance, in which the general condition, perhaps with a positive tuberculin test, indicates the presence of tuberculosis but in which the seat of the trouble cannot be ascertained, a marked tenderness on esophageal inflation may point to the presence of the infection in the bronchial glands.

The So-Called Fourth (Filatow-Duke's) Disease.—O. Unruh (*Deutsch. Arch. f. Klin. Med.*, 1906, No. 1.)—Besides scarlatina, measles and rubella with their characteristic symptomatology there is still a fourth disease closely resembling scarlet fever, but shown to be independent of the latter by its mild course and certain peculiarities of its exanthem and its contagium. The exanthem consists of innumerable small dots that do not stand out as palpably as those of measles and rubella. These dots may be single, collected in groups or connected by an erythema, so that, especially in the face, the appearance may be that of a large irregular measles

spot. Close inspection will, however, reveal the point-like nature of the eruption. The above-mentioned erythema may simulate closely a scarlet fever exanthem, but is somewhat darker in color. It may spread rapidly over the body, nearly covering the trunk and legs, but leaving larger gaps in face and neck. After 24 to 36 hours the eruption fades and is followed by a fine desquamation that lasts one or two weeks. The appearance of the eruption is accompanied by a fever lasting a few days. The mucous membranes show a mild catarrhal condition. No sequelæ have been observed. The disease is doubtless usually diagnosed as a mild form of scarlet fever.

THERAPEUTICS.

IN CHARGE OF

WALTER BAUMGARTEN, M. D.

PHYSICAL MEASURES IN THE TREATMENT OF ACUTE ARTICULAR RHEUMATISM.—Laquer (*Berlin. Klin. Wchnschr.*, March 3, 1906.)—Reviewing the recent introduction by Winterwitz of tepid baths and packs in the treatment of acute rheumatism, the faradization of the affected joints followed by cold packs, by Drosdoff, the full hot baths by Hauffe, and the production of local stasis about the joint by Bier, Laquer describes the procedure followed at the hydrotherapeutic institute at Berlin. In acute cases the joints are wrapped in one thickness of bandage which has been wrung out of cold water; this is kept cold by dropping slowly but continually cold water from a sponge or similar material. This may be applied without discomfort to the patient, and should be continued all day. At night a cold application is placed about the joint and covered with an impervious material to be removed from time to time. Some preparation of salicylic acid is given at the same time in the usual way; when the fever has disappeared the salicylic acid is discontinued, and full baths at 38 to 40 degrees, and lasting ten to twenty minutes are substituted for the cold applications. When the case is complicated with endo-carditis the temperature should be lower (37 degrees) and the duration less (not more than 15 minutes). The local treatment of the joints is effected by hot air applications, hot water, or by Bier's stasis.

The latter methods, which in principle consist of a production of hyperæmia about the affected joints, are also applicable to gonorrhœal rheumatism, and give equally favorable results.

1. DIGITALIS THERAPY.—Schwyzer (*Med. News*, Nov., 1905.)
2. THE THERAPEUTIC VALUE OF DIGALEN.—Ceconi and Fornaca (*Gazz. degliosped.*, Aug. 17, 1905.)
3. THE ACTION OF DIGALEN AND ITS THERAPETIC VALUE.—Livierato (*Wien. Klin. Wchnschr.*, Nos. 51 and 52, 1905.)

1. Schwyzer has used digitoxin (Cloetta) with favorable results. Given by mouth it acts more promptly than pulv. digitalis. Subcutaneously it acts in a few hours, and intravenously immediately. It has no cumulative

effect. Given subcutaneously it is accompanied by no pain. The ordinary dose is 1-3 mg. (equivalent to 0. 1 g. digitalis) three times daily; in urgent cases 2-3 mg. may be given three times daily or more frequently.

2. The experience of the Turin clinic with digalen is very favorable. The dose of digalen is more easily adjusted, and the drug is well borne by the stomach. It was given intravenously, and per rectum once; in the majority of cases subcutaneously or by mouth. The dose varied from 2 to 6 cc. in a period of 18 hours. The same quantity was used subcutaneously in one or two injections.

3. According Livierato digalen produces marked reduction in the size of the dilated heart, first in its lateral diameter, then in the longitudinal diameter. Diastole is lengthened, systole is made more forcible. In short it produces a typical digitalis effect. It has the following advantages over digitalis leaves, and the various digitalins and digitoxins; it is accurately titrated, and the dose can be accurately controlled, which is quite the opposite of other digitalis preparations; it acts promptly; causes no gastric disturbances; when given subcutaneously causes no local reaction; has no cumulative effects. The dose employed subcutaneously was 3 cc.; internally 4 to 5 cc. administered in milk.

SURGERY.

IN CHARGE OF

WILLARD BARTLETT, M. D.

EXPERIMENTAL PANCREAS-NECROSIS, AND THE CAUSE OF DEATH IN ACUTE DISEASES OF THIS ORGAN.—Guleke (*Archiv. fur Klin. Chir.*, Bd. 78, Heft. 4.)—This author made a number of interesting experimetns, injecting the ducts of the gland, as well as ligating and plugging its nutrient blood vessels. As a result of his studies, he came to the conclusion that the hemorrhage in the gland, which resulted from these disturbances in circulation was merely an incident, rather than an immediate factor in the process. The most important thing of all is the necrosis of the pancreatic tissue, and must be considered as a casual factor of the greatest importance in the production of death. This comes about as a result of poisoning from trypsin which is formed in consequence of the decomposing of the gland tissue. He considers that the process is identical in the human to that which he demonstrated on dogs. The severity of the malady depends directly upon the amount of trypsin absorbed.

PEPTIC ULCER OF THE JEJUNUM AFTER GASTRO ENTEROSTOMY.—Gosset (*Revue de Chir.*, No. 1, 1906.)—Braun, in 1899, was the first to describe this entity, and while it is comparatively an uncommon malady, the author has succeeded in collecting thirty-one cases up to date including one of his own. In this latter observation the posterior method had been followed and after two years the jejunum was found to have perforated into the transverse colon. He re-operated with a successful result. The details of his interesting case are well shown in his illustrations. He states

that in most of the reported cases, namely twenty-seven, in which the technique was fully described, of these the anterior method was followed in fifteen, consequently most authors have been inclined to state that the method is largely at fault. However, Gosset does not think that this is a valid observation since this is about the only method used in Germany in which we have almost all of these cases described. He says it is about as likely to follow one method as it is another. The symptoms may be of two sorts. The first class of cases may give no warning, there being no mark of disease, until an acute perforation takes place. In the other cases there may be about the same class of symptoms which mark the original trouble, with the addition of infiltration of the abdominal wall.

The Surgical Treatment of Round Gastric Ulcer in the Clinic at Zuerich, Between 1887 and 1904.—Kreuzer (*Beit. sur Klin. Chir.*, Bd. XLIX.)—This two hundred page article naturally contains more than can be justly dealt with in a short review. It represents the knowledge which was gained in one of the leading European clinics during a period of seventeen years, and covers a great deal of material. It seems especially worthy of note to consider what the author sums up in regard to the diagnosis. He states that the general symptoms indicative of gastric ulcer, may be given as follows: A relatively slight derangement of the general health, a good appetite, pain in a certain spot, especially after eating, of a cramping, burning nature, and often exceedingly severe. There is frequently sour belching, often vomiting of sour material shortly after taking nourishment, there may be bleeding, and there is likely to be constant pain on pressure, sharply localized. Usually there is hyperacidity and constipation.

He grants that it is, in many cases, not possible to make a definite diagnosis, although one is often aided by the chronicity of the malady. He says hemorrhage is lacking in half the cases, and that even in its absence, one must not stick to a diagnosis of chronic catarrh of the stomach when the case resists rational treatment for a long period of time. Such a one is more likely to be a gastric ulcer.

The Immediate and Remote Results of My Stomach Operations.—Brunner (*Beit. sur. Klin. Chir.*, Bd. XLIX.)—The point of chief importance, which is brought out in this rather lengthy article is one which goes to show that resection of the stomach is, undoubtedly, of far greater value than any other form of operation for cancer, even though a definite cure cannot be accomplished. By this is mean that a resection not only gives far greater relief for the stomach than does gastrosenterostomy, but in addition to this, the tenure of life, in cases where this be desired, is vastly longer after resection than after the other operation. The average duration of the patient's life, after resection, was found by the author to be 501 days, whereas the average after gastroenterostomy was only 170 days.

Radiograph of a Foreign Body Swallowed and Arrested in the Upper Rectum.—Mauclaire (*Bul. et Mem. de la Soc. de Chir. de Paris*, Jan. 23, 1906.)—This picture, of unusual interest, before the Paris Society,

shows an infant's play thing of oval shape, consisted of metal, about four centimeters long, lying transversely in the ampulla of the rectum of a child five years old. The foreign body lay pretty nearly in the middle line and caused the infant intense suffering. The surgeon's finger was introduced into the rectum and without great difficulty, the obstruction was removed.

The Treatment of the Stump of the Duodenum, After Resection of the Stomach.—Kausch (*Zentral. fur Chir.*, Feb. 3, 1906.)—In this article one sees the ideas of the late Professor Mikulicz expressed. The author was his son-in-law, and, until very recently, connected with the clinic.

There were 184 resections at Breslau, consequently an article which reviews them is of the greatest possible value. Most of these operations were done by the second method of Billroth, and a great many of them accompanied by peritonitis which frequently lead to the death of the patient. This complication resulted, most frequently, from the fact that the stitches in the end of the duodenum gave way and let its contents out into the abdomen. Consequently we have impressed upon us the value of a proper technique, insofar as this portion of the operation is concerned. Frequently there were circulatory disturbances in the stomach after this operation, and now and then the "vicious circle" was observed also. Gauze packing did no good so far as the stump of the duodenum was concerned. Nor does the author consider it of any value to sew this gut to the abdominal wall because the movement of the latter very likely would tear it loose.

The author is in favor of the first Billroth method in cases where this is mechanically possible, although the second must be used if the duodenum is to be divided very low down.

ORTHOPEDICS.

IN CHARGE OF

NATHANIEL ALLISON, M. D.

Little's Disease.—Glaessner (*Zeit. f. Orth. Chir.*, Band XIII, Heft. 4.)—The author points out the fact that this disease is far more frequent than is supposed. Twenty cases appeared at the clinic of Hoffa in one year. He makes a report of 53 cases, and divides them into three classes, following the classification advised by Hoffa, which is as follows: 1st, Little's disease proper, or so-called congenital spastic rigidity; 2d, cases where there is total rigidity, including the upper extremities, and, 3d, cases where there is general athetosis. As to the etiology, the following conditions are mentioned as influential: On the mother's side, general diseases, anomalies and diseases of the female organs; on the child's side, faulty development, anomalies, contraction formations, intra-uterine diseases and trauma. A combination of these two classes may exist. In

regard to the prognosis following treatment, the results are very favorable in most cases.

Diagnosis and Present Status of Treatment of Congenital Dislocation of the Hip.—Thienhaus (*Lancet-Clinic,* March 10, 1906.)—The author states that congenital dislocation of the hip-joint is at present curable in from 60 to 80 per cent. of all cases, provided they are treated within the time limit. The most appropriate time for treatment is between the second and the fifth year. Where patients have advanced beyond eight years untreated, they should be subjected only to a trial of reduction, when examination has shown that the shortening of the muscles, blood-vessels and nerves is not so extensive as to make serious injuries inevitable. In all cases the bloodless method of reduction should be first tried, and only after two or three attempts have been unsuccessfully made should the bloody method be resorted to. The author quotes Hoffa as follows: "Physicians must learn to make careful and accurate examination of children, when they are brought to them by parents. Perhaps it would be well to have an x-ray taken in all cases as early as possible. If diagnoses are made early, future generations will find the treatment as easy and as successful as we now find the treatment of club-foot."

Recent Surgical Methods in the Treatment of Certain Forms of Paralysis.—Tubby (*Brit. Med. Jour.,* March 3, 1906.)—This address on the surgical treatment of the different forms of paralysis was delivered before the Hunterian Society of London at its annual meeting. The forms of paralysis referred to were those arising from anterior poliomyelitis, spastic paralysis and some traumatic lesions of the nerves. The author takes up the historical side of the surgical procedures designed for the relief of these affections, giving a complete review of the work done. The modern methods of treatment discussed are, tendon and muscle transplantation, arthrodesis and nerve anastomosis. He makes a report of the following conditions treated successfully: Grafting of the extensor proprius pollicis into the tibialis anticus, and part of the extensor longus digitorum into the cuneiform bone, for paralytic equinovalgus associated with paralysis of the tibialis anticus; insertion of the iliotibial band into the patella, which was followed by complete recovery of the power of extension of the leg; grafting of the distal facial trunk for traumatic facial paralysis into the hypoglossal. A careful description is given of the technique necessary for successful anastomosis. The author states that nerve anastomosis is at present a recognized surgical procedure of value.

A New Method of Excision of the Knee, without Opening the Joint.—Flint (*Annals. of Surgery,* March, 1906.)—This method of resection is advised in order to obtain an operation that is quick, in which there is little danger of contamination of the wound by tuberculosis or other infection from the joint; one where hemorrhage can be reduced to a minimum; and where, when the operation is through, there is but slight danger of leaving diseased tissue behind, thereby diminishing the

probability of recurrence. The steps of the operation are as follows: A skin incision of rectangular shape is first made, the two vertical cuts being well back at the sides of the leg, extending from above the level of the upper limb of the subcrural bursa to one inch below the joint line. These two vertical incisions are connected across the front of the tibia by a transverse incision. This rectangular flap of the subcutaneous tissue is reflected upwards. The next incision is curved with concavity upward. It starts in the vastus internus, a little above the upper limit of the subcrural bursa, and is carried down and outward in the direction of the muscle fibers to the tendon of the quadriceps extensor, one-half inch above the patella; from here upwards and outwards in the direction of the fibers of the vastus externus to a point corresponding to the beginning of the inner side. The muscle with the tendon is completely divided and turned upwards, thus exposing to view the subcrural bursa. An incision is made across the front of the tibia down to the bone which is below the joint line. On the inner side the sartorius and gracilis are pushed back; on the outer side, the biceps and the perineal nerve.

The next step is to saw through the tibia as close to the joint as circumstances seem to warrant, the leg being still extended, and the soft parts protected. This saw-cut is then used as a joint, and the femur is fixed on the body and the leg on the femur. The soft parts are then quickly separated from the posterior structures of the joint. As soon as the posterior region of the condyles is exposed, the femur is sawn through from behind forward and slightly downwards, at a level sufficient to clear the cartilage behind. Thus the articular surfaces of the femur and the tibia may be removed entire, without having opened the joint. When the examination of the cut end of the bone reveals such an amount of disease left behind as to render curetting inadequate, another piece of bone should be removed. The writer unites the bones with No. 4 chromic catgut, six stitches passed directly through the bone with a curved Hagedorn needle. It is usually unnecessary to bore holes. While suturing the bones and soft parts, and during the time the plaster dressing is being applied, the leg should be carefully held in proper position by an assistant. There are of course extreme cases, either with very little tuberculous disease, or with very extensive involvement, where this operation would not be feasible.

The Modern Treatment of Fractures.—Beck (*N. Y. Med. Jour.*, March 24, 1906.)—Due to the use of the Roentgen ray, our therapeutic means have not only become more simple, but also much more definite. Our methods of treatment of fractures, in fact, have been so perfected that with few exceptions we may say the treatment can be outlined with almost mathematical precision. Where there is fissure or fracture, followed by no displacement, manipulation of the injured area must be avoided and immobilization in the most comfortable position applied.

If there is any displacement, reduction must be tried at once. This can be done either under control of the fluoroscope on a translucent table, or by using the guidance of a skiagraph taken before and after. In cases where the entangling of the fragments, extensive splinter formation, or similar complications, make reposition impossible even under an anæs-

thetic, the fragments should be exposed by a scalpel and brought into apposition. Plaster of Paris dressing will sometimes insure immobilization, but if the fragments slip out easily it is safer to unite them with catgut, provided there is enough periosteum to be utilized for that purpose; otherwise it is best to keep them together with a bronze wire suture. The sooner this is done the better, because the smaller will be the changes in the soft tissues.

GENITO URINARY SURGERY

IN CHARGE OF

H. McC. JOHNSON, M. D.

CONTRIBUTION TO THE STUDY OF THE DIAGNOSIS OF TUBERCULOSIS OF THE URINARY APPARATUS.—Columbino (*Ann. des Mal. des Org. Urin.*, Jan. 15, 1906).—The difficulty at times attendant upon the diagnosis of tuberculosis of the urinary apparatus and the inefficiency of our present methods in some cases, has led the author to look for additional help in this direction. It is well known that the tubercle bacillus is quite often difficult to demonstrate in the urine, and even may be confused with other acid-resisting bacilli. Nor does inoculation of the guinea pig solve the problem, for tubercular urine will sometimes fail to infect, and, besides, the time needed for this experiment is sometimes prejudicial to the health of the patient.

By analogy with that which is observed in other liquids of the organism it is logical to think that tuberculosis of the urinary apparatus could produce a special alteration of the leucocytes in the urine.

The author has observed that if certain urines present leucocytes of an altogether normal aspect and very well colored by ordinary means, others, on the contrary, contain deformed leucocytes, having special tinctorial affinities. Thus it is that the white globules of the urinary sediment may be divided into two classes, viz: 1. Leucocytes in affections other than tubercular, in which the form is normal, contour regular, and in which they color as those in the normal blood. 2. Leucocytes in tuberculosis. It is here that their study is more interesting. They present a special, even characteristic, alteration. If a drop of the centrifugated sediment is put upon a slide and a cover-glass placed over it, it will be observed that the form of the leucocyte is most variable; elongated, polyhedral, crenated. The contour is irregular. We sometimes see at the periphery little balls of protoplasm which seem inclined to detach themselves from the leucocyte, the elements seemingly having been fractured. If we find leucocytes thus deformed, mixed with red blood cells, we can say that it is a question of tuberculosis. The presence of blood is, indeed, almost constant in tubercular urine. If now, after a good fixation, the preparation is colored by a process described by the author and examined by an immersion lens, we will observe the characteristic irregularity of the protoplasmic contour of the elements. The protoplasm of certain polynuclear corpuscles is considerably re-

duced about the nucleus. We even find nuclei almost free. Another characteristic is the occurrence of multiple vacuoles in the protoplasm. The nucleus responds less energetically to reagents. Its chromatin presents itself deeply colorod in some and more pale in others.

The characteristics of the leucocytes as observed upon simple microscopic examination, without coloration, is constantly pathognomonic of tubercular disease of the urinary organs. Indeed, this examination is preferable to all others, for in coloration artifacts may appear. Nor is this change of the leucocytes altered by the condition of the urine.

Thirty-three cases in which this test proved efficient are reported.

Young Prostatics.—Le Fur (*Le Jour. de Med. et de Chir.*, Feb. 21, 1906).—Ordinarily prostatism makes its appearance between the ages of 60 and 65 years, but quite a number have been observed by the author aged 35 to 50, and it is these that he designates "young prostatics." Prostatism expresses the condition better than prostatic hypertrophy, because in some cases the prostates are small and hard, and there is no hypertrophy.

Prostatism is inflammatory in its origin whether the ultimate result be neoplastic, hypertrophy, or atrophy. It is during the first stage that well conducted treatment may produce postponement of the danger, if not a complete cure. Even in these comparatively young men we find two distinct types of inflamed prostates, the one hard, often small, sometimes uniformly hard, but more frequently indurated in places; the other large, soft, vascular, congested.

After mentioning the usual symptoms and methods of diagnosis, the author says the variety of hard, sclerous, small prostates develop much more rapidly and offer a much worse prognosis than the large, soft, vascular variety.

In order to ameliorate or eradicate these inflammatory conditions, besides the ordinary methods, the author speaks well of high dilations of the anterior and posterior urethra by means of the Kollman-Franck instrument.

There is no doubt but that by applying logical principles of treatment we may observe a diminution in the cases of prostatism and prostatic hypertrophy, just as we have seen the number of strictures notably lessened since the introduction of rational treatment for urethritis.

Note Upon the Therapy of the Haematuria of Prostatics.—Deschamps (*Ann. des Mal. des Org. Urin.*, Nov. 1, 1905).—Antipyrine in 5 per cent. to 10 per cent. emulsion introduced into the bladder has given the author excellent results in three cases of hemorrhage from the bladder in prostatics. Antipyrine acts slower and more continuously than the douches that are ordinarily employed.

The Treatment of Impotence by Resection of the Vena Dorsalis Penis.—Lydston (*Internat. Jour. Surg.*, March, 1906).—The resection of the dorsal vein of the penis in the treatment of impotence is an operation requiring accurate anatomical knowledge, and cannot be done

subcutaneously without danger of injury to important parts, or total failure of the operation, the location of the vein being such that careful and painstaking dissection is necessary for its ligation and resection. Ligation of the superficial penile veins has often been performed by those who claimed they had ligated the dorsal vein proper. Resection of these veins is often essential to the complete operation, but when performed alone is futile.

Resection of the dorsal vein is beneficial in many cases on strictly psychic grounds, but this does not militate against the advisability of its performance, as the important thing for the patient is restoration of function.

In some cases of impotence of organic origin the operation is not to be thought of; but in quite a wide range of cases of this kind it is successful because of its mechanical and psychial effects. One of the important elements in the cure of impotency by properly performed operation, is demonstration of its dynamic capacity through purely mechanical circulatory agencies. The mechanical conditions thus obtained are permanent in a large proportion of cases. In cases of complete impotency which are not dependent upon irremediable local cause of functional disturbance of innervation, the operation is apparently successful in fully fifty per cent. of the cases and beneficial in probably one-half of the remainder. In the great majority of cases of impotency that come under the observation of the surgeon a trial of the operation is advisable.

Calculus in the Pelvic Portion of the Ureter.—Lilienthal (*Internat. Jour. Surg.*, March, 1906).—The diagnosis may be made by a careful examination with the radiograph, but in reading the plates the possible presence of other opaque bodies in the same locality, such as a calcified lymph nodule, a sesamoid bone in the internal obturator muscle, a thick lime-plate in the iliac artery and even a foreign body in the contents of the rectum, should be carefully considered. The angle of the projection of the calculus with the plane of the plate may give rise to error of localization. The cystoscope, phonophore, and wax-tipped ureteral catheter may be employed to make observation of the bladder and ureteral orifices, and to localise the calculus more exactly. Pain either at the site of the stone or in the kidney of the same side, colicky or steady, associated with blood, or blood and pus in the urine, should lead to a suspicion of calculus, the possible presence of which is not eliminated by the existence of other diseases. The condition of the other kidney should be ascertained before any operation is performed, even though nephrectomy is not contemplated. The author reports two cases of calculus in the pelvic portion of the ureter, both of which were diagnosed and localised fairly well. He considers pain or hemorrhage, or both, as indications for operation, and believes the usual abdominal incision for extra-peritoneal exposure of the ureter preferable to resection of the sacrum.

GYNECOLOGY AND OBSTETRICS.

IN CHARGE OF

HUGO EHRENFEST, M. D.

PUBIOTOMY.—Henkel (*Zeitschr. f. Geb. u. Gyn.*, Band. 57, Heft. 1.)—In the January number of this journal an exhaustive resume has been given of the present status of the pubiotomy question. A very noteworthy new contribution to this subject is the article of Henkel in which the detailed records of seven new cases are presented. The writer describes the operation and its manifold advantages. While emphasizing the comparative simplicity of technique, he believes, however, that the operation should be performed only by the specialist, simply for the reason that only the specialist is able to define the exact indications for this extremely useful obstetric operation.

PUBIOTOMY IN A CASE OF PLACENTA PREVIA CENTRALIS WITH A CONTRACTED PELVIS.—Henkel (*Zentralbl. f. Gyn.*, 1906, No. 8.)—The operation was performed on a patient, 27 years old, IV. para, with a flat rhachitic pelvis, the true conjugate being between seven and three quarters and eight cms. Pubiotomy was performed, next the cervix split and the child extracted. On the twenty-first day, post partum, mother and child left the hospital.

[This number of the Zentralblatt contains four other articles on pubiotomy containing the reports of twenty-one cases.]

THE HIGH MORTALITY OF PERITYPHLITIS DURING PREGNANCY.—Fueth (*Muenchn. Med. Woch.*, 1906, No. 9.)—The writer begins this article with the statement that in 1894 Munde, of New York, for the first time called the attention of obstetricians to the fact that perityphlitis is an extremely serious complication of pregnancy. Of course only cases of a severer type are recorded in literature, but it is striking that in forty-two cases collected from literature, twenty-two, i. e., more than 52 per cent., ended fatally. The causes of this apparent untoward influence of pregnancy upon appendicitis are not entirely understood. Fraenkel lays particular stress on the possibility of a stretching and eventual tearing of adhesions by the growing uterus, with the possible result of a general peritonitis. Hlawacek sees the danger in the fact that the growing uterus leads to a continuous change in the position of the diseased appendix and possibly often brings the organ into a situation in which it is kinked or its blood supply interfered with.

Fueth suggests two other causes which undoubtedly contribute to the strikingly high mortality of appendicitis during pregnancy. In not a few cases of periappendicular abscess the pus finds its way down into the pelvis and then can be easily removed through the vagina. Of course after the fourth month of pregnancy the pelvis is blocked and such a favorable development excluded. The other cause for the large mortality is the dislocation of the cecum during pregnancy high up into the abdom-

inal cavity. The appendix may in this manner be pushed up to the edge of the liver. This position beyond doubt favors the development of a general peritonitis and may account for the fact that during the fourth to the ninth month of pregnancy, out of 32 cases 19 terminated fatally, while during the second and third months of pregnancy of 10 patients but 3 died.

EXPERIENCE WITH THE EXTENDED FREUND OPERATION.—(ABDOMINAL RADICAL OPERATION FOR UTERINE CARCINOMA.)—Veit (*Berlin. Klin. Woch.*, 1906, No. 8.)—More satisfactory results can be obtained only if the radical operation will be performed more often in the earliest stages of the development of carcinoma. The resistance of the patient against operation will diminish proportionately with a reduction of the primary mortality of the operation. In Veit's opinion the three chief factors responsible for the comparatively high mortality of the abdominal radical operation are: septic infection during operation, cardiac complications during operation, especially in cachectic patients, and thrombosis and infection of venous plexuses subsequent to operation. Veit believes that he can reduce the danger of a septic infection by a preventative injection of antistreptococcic serum preceding the operation, and by a thorough curetting and desinfection with alcohol of the carcinomatous growth. He thinks the danger of a cardiac disturbance is reduced if general anesthesia be substituted by medullary anesthesia with stovaine. He finally emphasizes the advantages of a careful ligation of all vessels in the course of the operation.

PEDIATRICS.

IN CHARGE OF

ALFRED FRIEDLANDER, M. D.

CONVULSIONS IN THE COURSE OF INFLUENZA IN CHILDHOOD.—Habert (*These de Paris, Arch. de Med. des Enf.*, Feb., 1906) says that the toxin of influenza, attacks, by predilection, the central nervous system of the child. Influenzal eclampsia is therefore to be regarded as the result of intoxication. But the convulsive phenomena are ordinarily only produced in children predisposed thereto by heredity—as the result of neuropathic, arthritic or alcoholic diathesis. The prognosis is good, and recovery the rule. The convulsive crises usually appear at the height of the disease, more rarely in its incipiency or at its close. Anatomic lesions are to be considered as effects rather than as causes of such convulsions. Influenzal eclampsia without being exceptional, is not at all common considering the enormous frequency of influenza and the general tendency to convulsion as the result of intoxication in childhood. The diagnosis is to be made by the coincidence of the influenzal symptoms and by the prevalence of the epidemic. The definite diagnosis cannot always be made immediately. For the treatment, in addition to the usual treatment of influenza, wet packs are highly recommended.

Concerning the Origin of Tuberculosis in Infancy.—Schlossman (*Archiv. f. Kinderh.*, Vol. 43, p. 99) in an address delivered before the German Pediatric Society, takes the stand, based upon his exhaustive experimental and pathological studies, that in early childhood the origin of tuberculosis, must be considered enterogenous rather than aerogenous, that the infection occurs through the gastroenteric tract rather than through the respiratory tract. The point of entry may be anywhere in the gastroenteric tract, from the oral to the anal orifice, and the tonsils and nasopharynx are regions of special importance.

His studies have shown that directly inherited tuberculosis must be more common than has hitherto been supposed, though there can of course be no question that for the vast majority of cases the infection must occur in extrauterine life. Although he insists upon the alimentary origin of tuberculosis in childhood, he does not believe that this infection occurs through cow's milk as has been insisted upon. Incidentally it may be noted that he denies that Behring ever took this stand himself, and maintains that a careful reading of Behring's writings on the subject will show that he has merely insisted upon the alimentary origin of the disease in the vast majority of cases in childhood, without insisting that the germs are carried in the milk itself.

Schlossman denies that alimentary origin of tuberculosis necessarily presupposes that tuberculosis of the intestinal tract must be the primary lesion. He admits that primary intestinal tuberculosis is rare in infancy, but maintains that this in no wise affects his theory, in that it appears proven that tubercle bacilli can penetrate the healthy mucosa of the gastrointestinal tract without the production of local lesion of any sort.

The bacilli pass through the intestinal canal, through the regional glands (and even in the glands local lesion is not necessarily set up), get to the thoracic duct through the lymph stream, thence into the right heart and so into the lungs. Through the lung lymph capillaries they get to the bronchial glands, which are particularly prone to tubercular infection. (Why the bronchial glands should immediately be affected when the bacilli pass through the mesenteric glands without affecting them is not explained.—Ed.)

As against the aerogenous origin of tuberculosis, Schlossman cites the fact that he never has been able to find primary lesion of the trachea or of the larger bronchi, and that in thousands of sections, he never has been able to demonstrate the bacilli in the alveolar spaces of the lungs. If as the adherents of the inhalation theory would have us believe, it is easy for the tubercle bacillus to get directly to the lungs, one ought to be able sometimes, to demonstrate the bacilli in the alveolar spaces.

It is not possible within the space of an abstract to give all the points of the discussion, at any rate it marks a most interesting contribution to this most important subject, from one of Germany's foremost pediatrists. It may be noted that Schlossman says, that he was formerly a firm adherent of the inhalation theory, that his study of the subject has convinced him that he was formerly in error, that according to his view the weight of evidence at this time would speak most strongly for the alimentary origin of tuberculosis, in the sense that the bacilli are swallowed, getting to the respiratory tract secondarily.

METADIPHTHERITIC PLEURISY.—Deguy and Detot (*Rev. Mens. des Mal de l' Enf.*, Feb., 1906) find in a study of the subject, that pleurisy is not a very common complication of diphtheria. In 2,969 cases of diphtheria at the children's hospital in Paris, pleurisy was found clinically only eleven times. But in 85 autopsies pleural lesion was found thirteen times (15 per cent.). Their studies show that in the course of diphtheria, pleurisy of various kinds may develop. Purulent pleurisy is always due to secondary infection, usually due to the streptococcus. The modes of access in these cases are, in the order of their frequency, through the broncho pulmonary system, through the circulatory system and through the mediastinum. The serous pleurisies at times accompany a pulmonary lesion. Much more rarely, they occur independently of any such lesion. Though the actual demonstration cannot be furnished, it would appear altogether probable, that in these cases the pleurisy is due directly to the specific diphtheritic intoxication.

SPIROCHAETE PALLIDA IN HEREDITARY SYPHILIS.—Moncorvo, of Rio Janiero (*Arch. de Med. des Enf.*, Jan., 1906) has been able to demonstrate the spirochæte in two cases of hereditary syphilis. Not having any azure blue, he obtained excellent results with saffranine and dahlia violet.

The first case was that of a child 21-3 years old, who had shown manifestations since the age of two months. The child had congenital cataract, otorrhœa, eroded teeth, perianal ulcerations, and the general signs of infantilism. The organism was found in the secretions from the ulcers. In the second case, a child of three years, the parents being both syphilitic, there were perianal ulcerations and condylomata, ulcerations of the penis, mucous plaques. The spirochæte was found in great numbers. These observations are confirmatory of the findings of several other investigators, who have found the spirochæte in cases of hereditary syphilis.

NEUROLOGY.

IN CHARGE OF

SIDNEY I. SCHWAB, M. D.

THE CLINICAL HISTORY AND POSTMORTEM EXAMINATION OF FIVE CASES OF MYASTHENIA GRAVIS.—Buzzard (*Brain Winter*, 1905.)—This is a considerable addition to the knowledge we already possess of this very important disease. The object of this paper is two-fold. In the first place it will draw attention to some striking clinical phenomena occurring in this disease, and, in the second place, it will serve to propagate the view that there are constant morbid changes associated with myasthenia gravis. The clinical histories in this paper are very carefully given and afford a very definite description of the disease. The following conclusions are the result of the author's experience in this class of cases in which his material must be looked upon as being exceptional: (1) That

myasthenia gravis is a disease in which the symptoms are not always confined to the motor system, but may include others of sensory, mental or other origin. (2) That in all probability it has a definite and constant morbid anatomy constituted by the presence of widely distributed cellular and sometimes serous exudations (lymphorrhagias) in the tissue and organs of the body. (3) That slight muscle fibre changes are frequent and severe muscular atrophy rare occurrences in the disease. (4) That proliferative and degenerative changes in the thymus gland are frequently, but not constantly met with. (5) That the symptoms of the disease are best explaned by assuming the presence of some toxic, possibly autoxic, agent, which has a special influence on the protoplasmic constituent of voluntary muscle and a less specialized influence on the function of other tissues. (6) That the relation of this toxin to the incidence of lymphorrhagias and to thymic alterations is not clear.

Symptomatology of Paralysis Agitans.—Mosse (*Berl. Klin. Woch.*, March 5, 1906.)—This report of a case of paralysis agitans is of interest because of the early development of rigidity in less than two years the blue discoloration of the hands and the fact that the larynx took part in the process. The discoloration of the hands is due to the high degree of arteriosclerosis existing. The patient is 52 years of age.

Syphilis and Dementia Paralytica in Bosnia.—Nacke (*Neurologisches Centralblatt*, No. 4, 1906.)—This is an interesting paper on an observation that has been often repeated, namely, that in certain countries where syphilis is practically endemic, dementia paralytica and tabes are very rarely found. This is especially true of Bosnia, Herzgovinia and Dalmatia. The author of this paper in his travels in this region had opportunity to prove the correctness of these facts. He found that the hospitals were filled with cases of syphilis in various stages and that particularly the extra genital infection was very common. In many cases whole families were infected and in some communities it was rare to find an individual without syphilis. Comparatively little attention is paid to the careful treatment of the disease and for that reason there is an additional factor for the assumption that these two diseases of the nervous system should be frequent here. As a matter of fact there is very little tabes and as little dementia paralytica in spite of the fact that syphilis with limited or no treatment is so frequent. In the statistics of the insane asylums the percentage of dementia paralytica is very low. Among 614 cases in one institution there were only four cases of dementia paralytica. The proportion in Paris is 15 per cent. The author sees in all this a reason for the assumption that an added factor is necessary besides the syphilis in order that these two diseases should be produced. In this connection he assents to the dictum of Joffroy that the severity of the initial disease and its treatment have little to do with the possibility of the later development of tabes or dementia paralytica. The theory that a special predisposition exists and that upon that numerous other factors might have a place in causing the final disease, is the position taken by the author. A specific and for the most part congenital predisposition of

the nervous system furnishes the soil upon which later is developed the disease in question. The factors that are active in the final causation are trauma, alchohol, syphilis. Of these the author considers syphilis of the least importance.

Proof of the Existence of Choline in the Cerebro-Spinal Fluid by Means of a Polarising Microscope.—Donath (*Revue Neurologique*, No. 4, 1906.)—Donath has held now for some time that there is a close relation between choline and epilepsy and that very likely this relation may be a causal one. His results have been criticised and now he has succeeded in devising a method by which the existence of choline can be demonstrated in the cerbro-spinal fluid by means of crystalization and can be observed by the polariscope. Chloroplatanate of choline can be accurately differentiated from other substances.

OPHTHALMOLOGY.

IN CHARGE OF

JOHN GREEN, JR., M. D.

Passive Hyperemia in Ophthalmic Therapy.—Renner (*Munch. Med. Woch.*, January 9, 1906.)—The method of artificial passive hyperemia as advocated by Bier in the treatment of inflammations has been investigated by Renner with a view to ascertaining its value in certain superficial diseases of the anterior segment of the globe. The patient's neck was encircled by an elastic band 3 cm. wide. Experimenting on normal eyes, it was found that after the band had been in place three to eight hours there was produced a sense of lid tension and pressure in the extrinsic muscles. The ocular conjunctiva was slightly, the palpebral notably congested. There was no disturbance of motility, change in the intraocular pressure or lowering of vision.

The method appeared to exercise a particularly favorable effect upon parenchymatous keratitis, such cases recovering without other treatment. A beneficial influence was also noted in serpent ulcer, though the effect was less marked. In phlyctenular keratitis and corneal opacity with or without vascular pannus the results were negative.

In no case was the ocular condition aggravated by the treatment. Most of the patients were children, or young adults free from cardiac or vascular disease.

Two Cases of Lid-Closure Pupil Reflex.—Ballantyne (*Ophthalmoscope*, February, 1906.)—In both cases spasmodic closure of the lids gave rise to a contraction of the pupils. On opening the eyes the pupils were found smaller than they had been before closure and required an appreciable time to dilate to their former size. The pupillary contraction took place when, the patient attempting to close the eyes, the lids were held forcibly apart. Careful tests showed that the reaction was not due

to pressure on the eyeball nor was it evoked by a foreign body placed upon the cornea or sclera. There was no reaction when the lids were closed passively, thus indicating that the active innervation of the orbicularis was the factor in determining the pupil contraction.

This associated action of the sphincter iridis and orbicularis tends to support the theory of the innervation of the orbicularis from the nucleus of the third nerve. No definite diagnostic value can be attached to it.

Epithelioma of the Lid. Operation or Radiotherapy?—Trousseau (*Ann d' Oculist*, January, 1906.)—The opinion has been gaining ground that the early extremely favorable views with regard to radiotherapy in skin cancers must be modified in the light of later experience. In his consideration Trousseau excludes such benign varieties of skin cancer as would get well under any form of treatment and refers only to those cancers which, in their biologic characteristics and histologic structure, give indubitable evidence of malignancy.

While admitting definite and permanent cures of lid cancer after radiotherapy, he notes other cases in which the disease improved or disappeared entirely on the surface only to penetrate into the deeper structures. He cites a case of epithelioma at the inner angle, in which an increase of ulceration with involvement of glands followed the application of the ray. In some recurrent cases the x-ray has seemed to hasten the progress of the disease. Trousseau appears to have been extremely fortunate in avoiding recurrences in his operated cases and is hence inclined to favor operation as the method of choice.

Injury to the Head Followed by Optic Neuritis-Lumbar Puncture-Recovery.—Chaillous (*Soc. d' Ophthalm. de Paris*, Meeting of December 5, 1905.)—Following a fall on the head the patient remained comatose for nine days. On regaining consciousness he complained of violent headache and disturbed vision. Ophthalmoscopic examination revealed a double optic neuritis and unilateral retinal hemorrhage. The ocular signs and headache disappeared shortly after the withdrawal (by lumbar puncture) of 15 ccm. of cerebro spinal fluid.

Chaillous insists on the necessity of ophthalmoscopic examination in every head injury presenting signs of increased intracranial pressure. The presence of optic neuritis is an indication for the performance of lumbar puncture.

True Hypertrophy of the Extrinsic Ocular Muscles.—Mauch (*v. Graefe's Arch. f. Ophthalm.*, September 26, 1905.)—A cancer of the right upper jaw had invaded the orbital tissues, producing exophthalmus and complete immobility of the globe. Complete exenteration of the orbital contents was performed.

Examination revealed an enormous regular hypertrophy of the extrinsic muscles, the muscle volume being more than three times the normal. Microscopically, the muscle tissue was found absolutely normal.

LARYNGOLOGY AND OTOLOGY.

IN CHARGE OF

W. E. SAUER, M. D.

INDICATIONS FOR A CURATIVE TRACHEOTOMY IN TUBERCULOSIS OF THE LARYNX.—Henrici (*Archiv. fuer. Laryngologie and Rhinologie,* Band 18, Heft., 1.)—The author reports in detail a case of tuberculosis of the soft palate and larynx in a girl of 12 years, which grew steadily worse under local treatment with lactic acid and the curette. An involvement of the lungs could be made out. The patient was tracheotomized and from that time on her condition began to improve. The patient began to improve and the infiltrations gradually disappeared. The canula was removed five months later. A laryngoscopic examination revealed only a slight thickening at the posterior end of the right false cord. This was removed. A microscopic examination revealed just one tubercle in the mass. A laryngoscopic examination three months later revealed nothing abnormal. Brief reference is also made to three similar cases which had been previously reported by the author. One of the cases was operated upon five years ago and the other two three years ago. All are well.

The indications given for a curative tracheotomy are: 1. The operation should be done only in cases under twenty years. 2. The lungs should be free or only slightly involved. 3. The process in the larynx should be of a benign character.

THE QUESTION OF A PRIMARY TUBERCULOSIS OF THE MASTOID IN CHILDHOOD.—Ismer (*Archiv. fuer. Ohrenheilkunde,* Band 67, Heft. 2 and 3.)—With a view of determining the frequency of tuberculosis of the mastoid in children and how this infection takes place, the author examined forty successive cases of mastoiditis in children up to 13 years of age which had been operated upon at the University clinic of Halle. Under these forty cases he found four in which a positive diagnosis of a tuberculosis of the mastoid was made out. The diagnosis was based on the microscopic examination of the pus and tissues and animal inoculations. The author concludes as follows:

1. Tuberculosis of the mastoid in childhood occurs much more frequently than is ordinarily believed. About 13 per cent. of all mastoid cases are tubercular.

2. About half of the cases of tuberculosis of the mastoid are primary, that is the infection takes place through the blood. The other half of the cases are secondary to a tuberculosis of the lymphatic tissue in the nasopharynx.

3. The onset of this disease is a gradual one, with little or no pain. The microscopic appearances at the time of operation do not lead one to suspect a tuberculosis.

4. The only positive evidence of a tuberculosis of the mastoid is the microscopic examination of the diseased tissues.

5. The prognosis following the operation of a primary tubercular mas-

toiditis is very good, but in secondary cases the spreading of the primary focus menaces the life of the patient.

A brief history of the forty cases is given in tabulated form.

The Differential Diagnosis of Cerebellar Abscess and Suppuration of the Labyrinth. — Neumann (*Archiv. fuer. Ohrenheilkunde,* Band 67, Heft 2 and 3.)—Cerebellar abscess and suppuration of the labyrinth have so many symptoms in common that a differential diagnosis is many times impossible. The author lays special stress on the value of nystagmus as it occurs in these conditions. In suppuration of the labyrinth the nystagmus becomes less and less marked and finally disappears as the suppuration extends, while in cerebellar abscess the nystagmus increases as the disease progresses. Also in suppuration of the labyrinth the nystagmus occurs in the beginning when the eye is turned to the diseased side, whereas this may disappear and the nystagmus still be present when the eye is turned to the well side. In cerebellar abscess the conditions are reversed. The nystagmus is first observed when the eye is turned to the healthy side and then later suddenly turns to the diseased side. When this form of nystagmus is observed a positive diagnosis of cerebellar abscess can be made. Another point in the diagnosis is that if after the labyrinth has been opened by operation a nystagmus due to a labyrinthal trouble rapidly subsides while the nystagmus due to a cerebellar abscess remains the same. Neumann reports five cases in which these conditions were observed and carefully studied.

Diagnostic and Prognostic Value of an Examination of the Throat in Pulmonary Tuberculosis.—Harland (*New York Medical Journal,* March 10, 1906.)—The value of a throat examination in calling attention to the presence of unsuspected pulmonary tuberculosis is pointed out by Harland. In many cases of tuberculosis of the lungs the disease is often accompanied by considerable wasting of the mucous membrane of the upper air tract together with changes in the quality of the secretions, the appearance being to a certain extent characteristic. The symptoms associated with these changes in the nose and throat are in themselves suggestive, viz.: constantly recurring colds, continued dropping of mucous from the naso-pharynx into the throat, hoarseness and coughing. The mucous membrane is often found wasted and bathed with sero-mucous. In such cases there is often a persistent sub-acute laryngitis. Such symptoms and appearances should lead to inquiry for other signs of the disease. The value of a throat examination in making a definite prognosis is not to be underestimated, for the appearance of laryngeal tuberculosis becomes to a certain extent an index of the seriousness of the patient's condition. The presence of any laryngeal involvement makes the prognosis less favorable, but not necessarily hopeless. The character and the location of the laryngeal involvement plays an important part. Those cases with deep ulcerations are always very grave, whereas the infiltrative cases offer a very fair prognosis.

DERMATOLOGY AND SYPHILIS.

IN CHARGE OF

MARTIN F. ENGMAN, M. D.

RESEARCHES INTO THE ORIGIN AND STRUCTURE OF MOLES AND THEIR RELATION TO MALIGNANCY.—Wilfred S. Fox (*Brit. Journal of Dermat.*, March, 1906.)—The seventeen specimens which formed the nucleus of this article were embedded in paraffin and cut and stained by various methods. They were obtained from the following sources which the author divides into groups for the purpose of histological convenience:

Group A were taken from young infants showing the development of the mole. Group B were moles taken from adults. Group C were hard nævi. Group D were those becoming malignant.

From extensive study of these preparations the following conclusions are given: 1. That in those moles which show typical columns of cells the cells are epidermal in origin. 2. That there is a rare variety of soft moles which show no typical nævus-cell arrangement, and whose origin is uncertain, possibly mesoblastic. 3. That in the majority of cases nævo-melanoma are nævo-carcinoma. 4. That melanomata do arise in the skin entirely apart from moles. 5. That Cohnheim's view of the origin of malignant growths is not borne out by the foregoing observations of the histology of nævo-melanoma. 6. That the pigment appears to be closely connected with the prime cause by reason of which moles become malignant, whatever that cause may be.

ADDITIONAL OBSERVATIONS ON THE USE OF THE ROENTGEN RAYS IN DERMATOLOGY.—H. W. Stelwagon (*Jl. of Cutan. Dis.*, March, 1906.)—The writer, who has had great experience in the use of the x-rays, gives this as a resume of his conclusions since 1903. He prefers the coil to the static machine on account of its greater convenience, but he thinks that the static machine is probably therapeutically as valuable. He believes that the vacuum of the tube should be started in many instances with an inch spark gap and gradually increased during the treatment so as to affect the deeper structures. This is particularly desirable in malignant growths. The time of exposure, except in malignant diseases, should be at a distance of ten inches and of three minutes' duration, but in malignant diseases the duration can be at least five minutes. In the milder diseases ten minutes should be the limit and the distance not less than six inches, while in malignant diseases fifteen to twenty minutes or longer may be given. Care should be used in changing from one tube to another. He urges the necessity of protecting the parts not under exposure and the operator being thoroughly protected. He reiterates the value of the x-ray in epithelioma, but thinks that in certain selected cases other methods are probably more desirable. The longer his experience the more he is impressed with the belief that the best method of all in the treatment of epithelioma is enucleation by excision or cauterization and the supplementary application of the x-rays, five to ten or more exposures. He still con-

tinues to get remarkable results in acne, but it is not of the same curative value in all cases. Relapses are not uncommon, but not so common as with other methods. He reserves this mode of treatment for the most obstinate cases. In obstinate patches of psoriasis and eczema it gives most favorable results. In keratosis of the palms and localized hyperidrosis, its action is most favorable. In sycosis he has used it cautiously, conjointly with other methods with favorable results. Stelwagon's paper is concluded by the following judicious remarks:

"Finally I can say, repeating to some extent my former conclusions, that we have in the x-ray a valuable addition to our therapeutic resources, but by no means a measure that should be used indiscriminately or be permitted to supplant other methods equally useful without the possible deleterious effects; that its application should be extremely cautious and conservative in non-malignant dermatoses and, except in extremely obstinate cases, used more as an adjunct than as the sole remedy; that in malignant diseases it can be used somewhat boldly and often with the prospect of a cure, or at least distinct amelioration; but that even in such diseases it may often be more advantageously employed as a helpful and supplementary measure than as the sole method of treatment."

Bullous Affections and Their Classification.—E. B. Bronson (*Jl. Cutan. Dis.*, March, 1906.)—This is the second introductory paper upon the subject of bullous affections before the last meeting of the American Dermatological Association. The writer remarks that the term bullous diseases should be taken in a very restricted sense, inasmuch as a bullous eruption is nearly always the concommitant of some other disease. Of bullous affections there are two fundamental divisions: (a) Obstructive forms in which bullæ occur as the result of obstruction in the sweat follicles or in the lymphatic channels with mechanical obstruction at the point of escape in the epidermis; (b) acantholytic forms in which a vital impairment of the cohesions between the prickle cells enable a relatively slight collection of serum to force its way through the cells and produce a lacuna. Acantholysis may be considered a consequence either (1) of external injury, (2) of absorption into the epidermis of venous or infectious matter, (3) of some other cutaneous affection which may be either symptomatic or idiopathic, of which the bullous affection is only an incident, (4) finally of some anterior disease transmitting an injurious influence directly to the prickle cell layers of the skin, in which case the resulting bullous eruption may be a pathognomonic sign either of a localized nerve lesion, or of some more general disease reflected to the skin through the nervous system; but even in such cases the immediate cause of the bullous affection is very often some more or less slight and commonly overlooked local external injury.

SOCIETY PROCEEDINGS.

ST. LOUIS SURGICAL SOCIETY.

Meeting of Feburary 14, 1906.

CYSTIC KIDNEYS.

Dr. Walter B. Dorsett presented two specimens of cystic kidneys

COMPLETE MEDIAN CERVICAL FISTULA, THYROGLOSSUS DUCT PREVIOUS FROM FORAMEN CAECUM OF THE TONGUE TO ONE INCH BELOW HYOID BONE; BRANCHIOGENETIC AND POST-RECTAL CYSTS.

Dr. H. Tuholske read a paper with the above title for which see page 353.

DISCUSSION.

Dr. Glasgow said a specimen exactly similar to the ones presented by Dr. Dorsett had been presented to the St. Louis Medical Society some years ago but it was presented as a case of sarcoma. In reality it was a cystic kidney as Dr. Bremer and he testified at the time. Several years ago Dr. Glasgow saw another case similar to this. The patient was passing considerable quantities of blood and it was thought probably due to sarcoma. The patient is now in good health, proving that it must be a case of cystic disease.

Dr. Tupper said cystic kidneys of this character were, as a rule, congenital. If the normal kidney were encroached upon with any degree of suddenness to the extent exhibited by these kidneys the patient would die quickly of uremia, but in a congenital condition there is a tolerance produced by the gradual encroachment and consequently we can more readily account for the absence of symptoms of poisoning.

Referring to the second case mentioned by Dr. Tuholske, the speaker said he had been somewhat non-plussed by a case presenting somewhat the same picture. The patient was a boy who had been operated upon by the senior Dr. Jackson, of Kansas City, for hare-lip and also for cleft palate. Dr. Tupper found a cyst which had undergone the usual treatment of injection and curetting and he thought it possible he had to deal with a congenital condition resulting from some failure of closure of the lateral plates. Under pressure he injected water and found it filled up as far as the hyoid bone, but no fluid entered the mouth. He then decided to attempt to dissect out the sinus and to this end he put into use a method he had never tried before. The method was devised, he thought, by an English surgeon and was to inject into the sinus direct a wax which, after hardening, outlines the sinus and renders its excision easy. Dr. Tupper injected into the sinus liquid plaster of Paris which made a perfect cast. Dissecting the sinus out he found it went up to and underneath the hyoid bone. It seemed to come out entire and from the subsequent history he believed it did.

Dr. Tuholske said he had no doubt the kidneys presented were of the congenital variety. He had seen several like them.

Referring to the discussion on his paper he said the reason why he reported the condition of thyroglossal sinus, or fistula, is, because it is unique in that in literature up to now there has been reported not one case in which the canal has

remained pervious in its entire length. This is the first case in which fluid injected from without, below the hyoid bone, passed through the duct and came out through the foramen caecum of the tongue. During the cartilaginous stage of the hyoid the duct may pass through the lower end of the hyoid and then later will become obstructed, and we can see the duct terminate behind the hyoid instead of going upward. The origin of lingual dermoids can be traced to the lingual ducts and since they are lined with squamous and not with cylindrical epithelium, it is easily explained. This duct bifurcates and from it develops the thyroid isthmus. Lateral pouches develop and form the bases of accessory thyroids. Their origin is from the same canal which goes down to make the isthmus, either remaining there perfectly quiescent, or during the stimulus of menstruation or at the approach of puberty, springing into existence and developing thyroid cysts. The point which he desired to lay stress upon was, that all fistulae which come from the thyroid duct are always central, those having their origin in the branchiogenetic section are always lateral, that is, the opening of internal communication is always lateral. If such a cyst as this grows away from the skin in the neighborhood of the sterno-mastoid it may accidentally open in the median line, but that is accidental. This is the distinction, that the thyroglossal is always central, the other is always lateral. Koernig asserts there never has been proven a pervious thyroid canal. In *that*, this case reported, was unique, and it is the only one on record as an absolutely proven case of "complete central thyroglossal fistula."

ST. LOUIS SURGICAL CLUB.

Meeting of March 14, 1906.

SUGGESTIONS FOR IMPROVING THE RESULTS OF THE SURGICAL TREATMENT OF CARCINOMA RECTI.

Dr. Ernst Jonas read a paper with the above title for which see page 364.

DISCUSSION.

Dr. M. B. Clopton thought that Dr. Jonas had not laid enough stress upon the question of the type of growth, for the chance of recurrence was regulated very much by the type of growth. The epithelioma variety were nearer the anus and their recurrence was a very different matter from those occurring higher in the gut. Of those occurring higher up there was the malignant adenoma which was of a similar character to the malignant adenoma of the stomach and these growths were very much more benign than the medullary carcinoma or the adeno carcinoma. In the malignant adenoma type the involvement of the glands came very much later, consequently the operation was not so extensive as in a carcinoma of the adeno type where the glands are soon involved. Dr. Clopton did not agree that a colostomy was a necessity in all cases of cancer of the rectum. The healing in the Kraske operations was not very kind because so great an operative field was opened up. In those cases he had seen where the sphincter was left, the control was no better than in the Whitehead operations for hemorrhoids where too much mucous membrane had been removed. The control in those cases where the lower end of the rectum with the sphincters was removed seemed to be very good if careful dietary arrangement and training were followed.

Dr. Charles H. Dixon agreed with Dr. Jonas thoroughly on the preliminary colotomy. The speaker did not agree that the squamous type was always found about the anus, for the columnar epithelium might be changed entirely and there might then be a squamous carcinoma high up in the rectum. As to the early diagnosis, in a proctitis there was often an obstruction, and, not only this, but a cicatricial band and even a nodular condition, and still no malignancy. These were the cases where it was hard to say whether the condition was benign or not. And even if an excision was made and a piece examined under the microscope there was always the possibility that in a malignant growth one might get a portion that was benign.

Dr. Jonas, in closing, said the Kraske operation mentioned by Dr. Clopton, which was, of course, included in the sacral route methods, was also much less dangerous when a primary colostomy was done.

When this step was taken, an operation on the rectum did not differ from an operation on any other part of the body, for almost aseptic conditions could prevail at the site of the operation. He agreed with Dr. Clopton that different types of cancer varied in degree of gravity, but he did not agree that the surgeon should make his plans of operation according to the different types of the disease. In cancer of the breast, whether adeno-carcinomatous or some other type, only when the lymphatics had been thoroughly removed was it justifiable to hope that the cancer had been removed completely. While, in the typical location, the glands drained toward the hollow of the sacrum, one could, nevertheless, not be absolutely certain of this, for the lymphatics in the pelvis varied their course. As to the squamous type, regarding the question of its occurrence high up in the rectum, Dr. Jonas did not think that Dr. Clopton meant to exclude such a possibility. The case of the polypus high up in the rectum, which had undergone malignant degeneration, could hardly be called a typical squamous carcinoma of the rectum.

While he had advocated radical operations, Dr. Jonas hoped that some day all cancers would be cured by means of the hypodermic needle. He believed that it was merely a question of time when the injection of a serum would cure the disease.

Dr. Clopton, in referring to his statement that the type of operation was to be determined by the location of the growth, said that carcinoma about the lowest portion of the rectum and anus was nearly always metastatic to the inguinal glands, while in those occurring higher up usually the sacral glands were the ones affected. Consequently, in the lower growths the inguinal glands had to be removed in preference to the others, although they might also be involved and have to be removed. This destroyed the analogue with the breast operation, where the same lymphatics were always involved.

BOOK REVIEWS.

BIOGRAPHIC CLINICS VOL. III., ESSAYS CONCERNING THE INFLUENCE OF VISUAL FUNCTION, PATHOLOGIC AND PHYSIOLOGIC, UPON THE HEALTH OF PATIENTS. By George M. Gould, M. D. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut St. 1905.

The present volume consists of thirteen chapters and two appendices. The use of the title "Biographic Clinics" in connection with this volume is a bit far-fetched, inasmuch as only two of the thirteen chapters are of this character, namely: Chapter 2, "The Life Tragedy of John Addington Symonds, and Chapter 3, "Taine's Ill-Health." The remainder of the book is made up of miscellaneous essays all built upon the thesis of the dire results arising from uncorrected errors of refraction. Two chapters have been contributed by English writers—one on "Eye-Strain as a Cause of Headache and Other Neuroses," by Simeon Snell, and "Slight Errors of Refraction and Their Influence on the Nervous System," by C. Ernest Pronger.

The book is well worthy of perusal.

THE PHYSICAL EXAMINATION OF INFANTS AND YOUNG CHILDREN. By Theron Wendell Kilmer, M. D., Adjunct Attending Pediatrist to the Sydenham Hospital. Illustrated with 59 Half-tone Engravings. 12mo., 86 pages. Bound in Extra Cloth. Price, 75 cents, net. F. A. Davis Company, Publishers, 1914-16 Cherry street, Philadelphia, Pa.

This little book presents in concise form the methods of physical examination of infants and young children. As the author observes, the examination of children differs very largely from the examination of the adult, a fact that the physician is prone to forget. Many of the facts stated are elementary, but the book is not the less valuable on this account. Special stress is laid on the value of inspection and palpation in the examination of children, and the information to be elicited by these methods is discussed in detail.

The special examinations which the general practitioner should also be able to make are well described.

The illustrations are a feature of the book, and are, in the main, both good and instructive.

PRACTICAL MEDICINE SERIES OF YEAR BOOKS. Vol. I. General Medicine. Edited by Frank Billings, M. D., and J. H. Salisbury, M. D., Chicago, 1905. Price $1.

This volume places before the reader a review of the literature in general medicine of the past year (1904-1905) in a form not too greatly condensed for practical use.

GALL-STONES AND THEIR SURGICAL TREATMENT. By B. G. A. Moynihan, M. S. (London), F. R. C. S., Senior Assistant Surgeon to Leeds General Infirmary, Leeds, England. Second edition, revised and enlarged. Octavo of 458 pages, beautifully illustrated. Philadelphia and London: W. B. Saunders & Company, 1905. Cloth, $5.00 net; Half Morocco, $6.00 net.

The first edition of Mr. Moynihan's work on gall-stones was completely enhausted in eight months. Mr. Moynihan, by his masterly presentation of operative technic and clear, logical discussion of indications and contraindications, has won an enviable place in contemporary abdominal surgery. In this edition, increased in size by some seventy pages, many additional case records have been incorporated and a number of new illustrations added.

MATERIA MEDICA AND PHARMACY. By Reynold Webb Wilcox, M. A., M. D., LL. D., Professor of Medicine at the New York Post-Graduate Medical School, etc. Sixth Edition. Philadelphia: Blakiston's Son & Co., 1905. Price, Cloth $2.50.

This is the first of two volumes prepared by Dr. Wilcox, based upon the fifth edition of White and Wilcox's "Materia Medica, Pharmacy, Pharmacology and Therapeutics." Since the author is the Vice-Chairman of the Revision Committee of the U. S. Pharmacopœia, it goes without saying that these two volumes have been prepared in accordance with the last, the eighth decennial revision of the pharmacopœia. In this volume the preparations are considered in their natural order. The subject is presented in a complete and clear form, which must appeal to both the teacher and the student.

MANUAL OF OPERATIVE SURGERY. John Fairbairn Binnie, A. M., C. M. With 559 illustrations, a number of which are printed in colors. Philadelphia: P. Blakiston's Son & Co.

Book of 644 pages, of pleasing size, well illustrated, with 559 plates, which are almost uniformly good, many being reproduced directly from photographs, and those of more diagrammatic nature well selected and suited to their purpose. The letter-press also is of good quality. The descriptions of operations are concise and attractively given, the easy, flowing style of the author adding to the pleasure of the reader.

The author has wisely omitted much that is adequately treated in text-books on General Surgery. Such things as amputations and ligations are not included in his volume. He has also wisely avoided the descriptions of the operative work done on bones and joints.

The chapter on the operative treatment of hernia, and on the operations done on the biliary passages are of particular merit.

METHODS OF ORGANIC ANALYSIS. By Henry C. Sherman, 1905, New York: The MacMillan Company.

Sherman's book is primarily written for the third year students in the school of Chemistry of Columbia University. In going over it, the result of this announcement is a profound respect for the high level of material that this school must have as the object of its teaching. For practical organic analysis, that is mainly the analysis of food materials and substances related to them, no more ideal way of introduction could be found. What appears as the most striking feature of the method of demonstration used is, that the emphasis is not laid on the easiest and most practical procedures, but on their theoretic correctness or at least their nearness to it. Unlike other compends of this kind, the author has impressed the importance of this way of doing work by many references to literature on single problems, thereby directing the reader to the recognition that personal effort cannot be spared even by as good a book as his. The spirit in which it is conceived and which is carried through the 250 pages is admirable and a high exemplification of the character of work done by our American teachers and investigators, who apply their science to the welfare of the populace.

A MANUAL AND ATLAS OF ORTHOPEDIC SURGERY, including the History, Etiology, Pathology, Diagnosis, Prognosis, Prophylaxis and Treatment of Deformities, by James K. Young, M. D. Illustrated with over 700 photographs and line drawings, mostly from original sources; half morocco; 942 pages. Price $12. Philadelphia: P. Blakiston's Son & Co., 1905.

This book deserves the title of Atlas much more than that of manual. It is a very heavy book, beautifully bound. The character of the illustrations is beyond criticism. Practically every orthopedic condition is illustrated by an excellent photograph. The line drawings and anatomical plates are also of the best. Everything in the scope of orthopedic surgery is completely covered and

illustrated, without encroaching upon the field of general surgery, or any of the other specialties.

DIE MEDIZIN IN DER KLASSISCHEN MALEREI. Von Dr. Eugen Hollænder. Berlin. Verlag von Ferdinand Enke, Stuttgart. Price, Mks. 16.

To search among the numberless art treasures of the Old World for paintings, etchings, sculptures, etc., which show some relation to medicine, while certainly an arduous task, is undoubtedly a fascinating pursuit. Work of this sort, of course, can be undertaken only by a physician who is an art connoisseur, a somewhat unusual combination of abilities and interests. In this volume Hollænder proves that he is well fitted for such a task. He seems thoroughly familiar with all the famous picture galleries and museums of Europe, shows an intimate knowledge of the history of medicine and writes in an entertaining and attractive style. He has grouped the 165 reproductions of selected paintings and etchings according to certain subjects, such as anatomy, presentation of diseases, allegories, hospitals, etc., and produced a unique work—a history of medicine in pictures.

Obviously this book can be fully appreciated only by German-speaking physicians, but even those not familiar with that language will derive considerable pleasure from a study of the numerous and unusually fine illustrations contained in this work.

DARWINISMUS UND LAMARCKISMUS. ENTWURF EINER PSYCHOPHYSISCHEN TELEOLOGIE. Von Dr. August Pauly in Muenchen. Verlag von Ernst Reinhardt. Muenchen. Karlstr. 4. Price, Mks. 7.

This volume contains a critical review of the present status of the Darwinian problem, and numerous new thoughts, entirely original with the author, on many problems of modern natural history. The author's position may be briefly defined as follows: In his opinion the selection doctrine of Darwin, if strictly separated from the theory of Lamarck, is untenable because it is incompatible with generally accepted scientific principles. On the other hand, he finds, at the bottom of Lamarck's theory, principles which are fully in accord with the laws of causation, and those of the preservation of energy. In this way Pauly endeavors to prove that the actual cause of selection is an organic, psycho-physical one which some day possibly will be studied and analyzed by the physicist, instead of the philosopher.

DAS GESCHLECHTSLEBEN DES WEIBES. Von Dr. Anna Fischer-Dueckelmann. II. Auflage. Verlag von Hugo Bermuehler in Berlin. Price, Mks. 2.50.

Among the numerous contributions on the sexual problem which of late have appeared in form of monographs and good-sized volumes, this little book deserves special notice. It is written by a woman. Candidly she gives her views, some of them bizarre, some certainly wrong, but all rather interesting.

PRACTICAL MEDICINE SERIES OF YEAR BOOKS. Comprising 10 Volumes on the Year's Progress in Medicine and Surgery. Issued monthly. Volume IV. Gynecology. Edited by E. C. Dudley. Volume V. Obstetrics. Edited by Joseph B. De Lee. Series 1905.

These two little volumes give an exhaustive review of the enormous obstetric and gynecologic literature which has appeared within the twelve months preceding the publication of the volumes The search of the editors for interesting contributions, especially in foreign literature, undoubtedly was a thorough one. The abstracts of the numerous papers are given in sufficient length to enable the reader of these volumes to gain a clear conception of the ideas of the writers. Both editors fall, however, into the mistake to devote comparatively too much space to a consideration of the various papers published by themselves.

THE CELLS OF THE HUMAN BLOOD IN ULTRA VIOLET LIGHT. E. Grawitz and E. Greenberg. Leipzig. Thieme. 1906.

It seems that this publication will open a new field for microscopic investigation. For the first time Grawitz and Greenberg have utilized, by means of a Zeiss-apparatus, the ultra violet rays in the examination of blood. Of course, the pictures were obtained as photographs. As the main advantage of the new method is a much higher power of definition than is obtainable by other microscopes, certain questions of the finer structure of the blood-constituents were investigated. The red corpuscles are circular discs, rarefied in their central portion; they do not possess a visible framework; the same holds true for nucleated corpuscles. The body of the mono-nuclear elements, even of the small lymphocytes is never homogenous, but always shows a definite structure. The small forms possess an impermeable nucleus, while those of the larger ones are permeable. In the neutrophilous cells the granulations vary in the degree of their permeability; their nuclei never appear so varying in shape, as they appear in fixed and stained specimens. It is impossible to make out any differentiation in the substance of the blood-plates. Many other findings are reported, and certainly show that the method is not only interesting, but very important, and we may expect for clinical microscopy and for histology in general wide reaching results.

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